DOCUMENT RESUME

ED 251 107 IR 050 929

TITLE	Cost Studies and Fiscal Planning. SPEC Kit 52.
INSTITUTION	Association of Research Libraries, Washington, D.C. Office of Management Studies.
PUB DATE	Mar 79
NOTE	130p.
PUB TYPE	Collected Works - General (020) -- Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	*Academic Libraries; *Cost Effectiveness; Cost Estimates; *Financial Policy; Fiscal Capacity; Higher Education; *Library Planning; *Program Budgeting; Program Descriptions; *Research Libraries; Resource Allocation

ABSTRACT

A 1979 Systems and Procedures Exchange Center (SPEC) survey focused on reviewing the current state of fiscal planning and cost studies in Association of Research Libraries (ARL) member libraries. The survey results indicate that, while some libraries are beginning to use cost analysis techniques to evaluate current programs, to plan for new programs, and to revise the allocation structure within the library, broad-based cost studies are rare and frequently viewed as not worth the investment needed to carry them out. At the beginning of this kit, a concise summary discusses the use of cost studies, forecasting as a tool that makes it possible to gain a clear understanding of probable future economic trends, and various budgeting systems. The kit contains four cost studies: "Computerized Literature Searching" (State University of New York at Stony Brook); "Adequacy of Funding for Libraries" (University of Michigan/Ann Arbor); "Portions of the Collection Analysis Project" (Massachusetts Institute of Technology); and "Price Trends Affecting Academic Library Budgets" (Purdue University). Also included are four forecasting documents: "Program Analysis and Planning for a Project to Complete Current Library Backlogs in a Five-Year Period Utilizing the INCOLSA/OCLC Cataloging System" (University of Notre Dame); "Five-Year Forecast, 1978/79-1982/83" (University of Southern California); "The Nature of Stanford Services: 1980-2000" (Stanford University); and "The Five-Year Planning and Budget Process in 1978-79" (Pennsylvania State University). The final document describes the "Zero Base Budget Project" at the University of Toronto. (THC)

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Cost Studies and

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Kit 52

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March 1979, No. 52
OMS
Systems and Procedures Exchange Center
ISSN 0160-3574

COST STUDIES AND FISCAL PLANNING IN RESEARCH LIBRARIES

Caught up in a period of high inflation and stable resources, research libraries have begun to expend efforts at determining costs of current activities and forecasting future costs of activities and materials in order to respond more effectively to economic realities. The fiscal planning process is no longer a matter of simply adding or subtracting the same percent to each line item of the budget, but rather requires more detailed consideration of the costs of specific programs and activities. A recent on-demand SPEC survey carried out for the Stanford University Libraries focused on reviewing the current state of fiscal planning and cost studies in ARL libraries. The results of that survey indicate that while some libraries are beginning to use cost analysis techniques to evaluate current programs, to plan for new programs, and to revise the allocation structure within the library, broad-based cost studies are rare and frequently viewed as not worth the investment needed to carry them out.

A primary incentive for libraries to develop better cost information has been the increased difficulty of justifying budget increases to university administrators. The pressures on higher education finances have led to increased emphasis on accountability and have tended to reinforce administrators' views of the library as a cost center. Another incentive for gaining a better understanding of costs is the intrinsic labor intensiveness of library operations. With salaries and wages accounting for upwards of 65% of expenditures, many libraries have found that most economies must be made in this area, even in the face of demands for higher salary increases to keep up with the general economy. This seems especially true in research libraries, which are committed to developing and maintaining strong collec- tions. The fact that most research libraries' materials' costs are continuing to increase at a rate well beyond their budget increases simply applies more pressure to keep salary costs under control. Decisions to initiate new services or to enhance existing services have become more difficult, since they tend to lead to reductions elsewhere.

Cost Studies. Perhaps the most common approach to gaining an understanding of the economics of library operations is the use of cost studies. Several libraries report that unit cost studies have been carried out for selected library functions. Cost studies are most frequently used to analyze technical service functions which can be reduced to a series of routine tasks. Public service tasks tend to be too varied and user dependent to be dealt with in this manner.

One approach has been to break down functions into discrete tasks, measure the time required to do those tasks and then determine the cost of each task using current salary and wage scales. This technique can provide a detailed understanding of what it costs to fulfill a library function as well as its component parts. It has not usually been possible, however, to determine the economic value of the function in any similarly discrete way. For most library functions, determing the economic value remains a largely subjective process which requires the judgement of the administration assisted by user and staff input.

One reported benefit of unit cost studies has been the development of quantifiable performance standards which can serve as benchmarks for both individual and organizational performance. Some libraries have been able to review cost study data and either eliminate or reorganize tasks to streamline the activity. In some instances this kind of reorganization can lead to a degree of job enrichment by shifting away from the reliance on assembly line forms of organization toward jobs with more variety and content.

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However, there is some question as to whether major cost studies lead to enough change and improvement to justify them. They are expensive to carry out, require specialized skills not always available on library staffs, and typically rely on information that is not readily available. There is some indication that libraries' cost study results have not achieved hoped-for budget increases or fundamental organizational or programmatic improvements.

Forecasting. The integrity or viability of a fiscal plan depends to a large extent on the validity of projected costs and allocations. While librarians recognize that forecasting implies speculation and therefore risk, they understand that it is a useful tool which makes it possible to gain a clear understanding of probable future economic trends. A major area of reported interest and need for research libraries is better information on the future of library materials' costs, particularly scholarly and foreign materials. The tendency in the past has been to add a common inflation figure to all materials allocations, but this figure frequently has proven to be low and particularly inadequate for serials and foreign materials. Recently, however, some libraries have begun to analyze materials costs by categories and to base cost forecasts on actual increases in the recent past.

Forecasting also is used in evaluating potential new services and in planning for their implementation. Many libraries went through this process when considering participation in a shared cataloging system. In addition to defining and reviewing current cataloging costs, libraries forecasted what those costs would be with the new system. Similarly, the introduction of online search services into libraries led to the forecasting of costs of providing those services and in most cases to considering sources of support, such as the general library budget and/or direct user fees. While some costs, such as terminal leasing, could be forecast quite accurately, others, such as staff time, were dependent on demand for the service and thus could only be speculated on. Similarly, many libraries are currently studying costs of various approaches to closing the card catalog (see SPEC Flyer and Kit. No. 46, July 1978).

Budgeting Systems. For all libraries, the budget is the primary statement of fiscal planning. It represents the library's predictions for required funds for specific functions, and to some degree it determines the nature and scope of future library activities. In recent years, many libraries have moved away from traditional incremental budgets toward a process of detailed review of current activities and programmatic needs with attendant costs. This has led many libraries to initiate new budgeting techniques such as program or zero base budgeting which involve all parts of the organization in determining needed programs, their costs, and how they are to be funded within the general library budget. These approaches have proven to be useful mechanisms for initiating organizational review of current practice and for dealing constructively with the economic consequences of program changes.

Needs and Trends. As academic libraries gain experience with new approaches to fiscal planning and cost studies, it has become apparent that the tools for carrying out the process require advancement. SPEC survey results indicate that there are few models available. However, automated systems are now being designed to provide useful cost data for decision-making and planning, and librarians are increasingly aware of the importance of having these data available. Many research libraries include technical specialists on their staffs who have the expertise and the specific charge to carry out cost studies and relate the results to the library's overall fiscal plan; and several libraries operate separate research and development or planning offices which contribute to that purpose.

Libraries are increasingly aware of the need to develop cooperative approaches to the collection and analysis of data such as materials cost increases. The trend toward developing greater understanding of the economic forces within and beyond libraries seems destined to continue in the face of economic uncertainty, ongoing demand for broad-based services and collections, and requirements to justify library programs and costs to university administrators.

The Kit on Cost Studies and Fiscal Planning in Research Libraries (103 pages) contains four documents on Cost Studies, four on Forecasting, and one on Budgeting Systems. The Kit is available for $7.50 to SPEC subscribers and ARL members, and for $15.00 to all others, prepayment required, from: Office of Management Studies, ARL, 1527 New Hampshire Avenue, NW, Washington, DC 20036.

ISSN 0160-3582

COST STUDIES AND FISCAL PLANNING IN RESEARCH LIBRARIES

KIT #52-MARCH 1979

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COST STUDIES

State University of New York-
Stony Brook

State University of New York
at Stony Brook
Stony Brook, New York 11794

Main Library
Tel.: (516) 246-5650/1

StonyBrook

MEMORANDUM

To John Brewster Smith

From Howard Pasternack

Subject Computerized Literature Searching at Stony Brook

Date March 23, 1978

It is the intent of this memo to review for you the scope of Stony Brook's computerized literature searching services, the costs of providing such services during the past fiscal year, and the problems associated with expanding existing services to encompass a full range of bibliographic data bases.

Since the early 1970's a number of commercial vendors have developed technological systems which offer to libraries the ability to do on-line information retrieval from machine-readable bibliographic data bases. These data bases, which are usually subject or discipline oriented, contain literature citations and abstracts to the current and retrospective literature of a given field. By keying in a search algorithm formulated in Boolean logic at a computer terminal, a librarian can generate a bibliography customized to suit the research needs of a particular patron.

Computerized literature searching has several advantages over traditional manual search methods. For one thing, it is possible to construct sophisticated search statements based upon the Boolean logic. For another, it is possible to search for the occurrence of key words in the titles and abstracts of articles; traditional manual searches are bound by the limited number of subject descriptors found in the published indexes. Finally, computerized literature searching is a significant timesaver, particularly for researchers working in interdisciplinary fields. For example, a scientist interested in the effects of pesticides upon farm animals can search through the literature of Chemistry, Biology, Medicine and Agriculture in a matter of minutes.

Among the most widely used commercial systems are those offered by System Development Corporation (SDC), Lockheed Information Systems, and Bibliographic Retrieval Services (BRS). Each of these systems differs in terms of the data bases offered and the charges therefore. System Development Corporation and Lockheed offer a wide range of data bases in the physical and biological sciences, engineering, economics, and the social sciences. The number of data bases offered by Bibliographic Retrieval Services is more limited, but the costs of performing a search using BRS are considerably less than using SDC or Lockheed. A relatively complete list of the data bases available from the three principle vendors is appended to this memo.

The costs of performing a computer literature search will depend upon which vendor's system is used and the particular data bases. All of the vendors base their charges upon computer connect time and the number of bibliographic references printed off-line. For example, the GEOREF data base is available from SDC at a cost of $75.00 per connect hour plus $.20 per citation. A fifteen minute search on GEOREF that retrieves 100 citations will thus cost about $38.75. Searches using SDC or Lockheed will cost anywhere from $25.00 to $75.00 per search. Costs using BRS are on the order of $10.00 to $20.00 per search.

It is the policy at Stony Brook not to charge library patrons for computerized literature searches. This policy is based on the premise that library services to the campus community should be available at no additional charge. That is, it should not be a matter of available funds as to whether a faculty member, staff member, or student receives data base services, but rather, the provision on these services should be based upon the ability of computerized literature searching to aid in the solution to a particular research problem. The only charge made for the services is the recovery of the costs of off-line printing. Generally speaking, the costs of a search at Stony Brook will be less than $5.00. This policy of no-charge for service is also followed with slight modification at the University Centers at Albany and Binghamton. Buffalo has chosen to charge patrons for cost recovery.

The policy of no-fee for service limits the number of data bases which can be offered. Because of pricing differentials, Stony Brook restricts its services to those data bases available from Bibliographic Retrieval Services. For a fixed fee of $7,500 per year we receive 840 annual connect hours of searching. In addition, there is a royalty charge of $0 to $35 per connect hour, depending upon the data base.

The estimated costs of the data base services for fiscal 1977/78 exclusive of personnel are shown below:

Annual Fixed Fee	$ 7,500.00
Royalty Charges	6,500.00
Communications	1,500.00
Terminal Maintenance	450.00
TOTAL	$15,950.00

Approximately 1,020 searches were done, giving an average cost of $15.63 per search. It is expected that during 1978/79 searching will increase about 30 percent, adding another $3,000 to the royalty charges.

The current services available at Stony Brook do not begin to tap the potential which exists for computerized literature searching on this campus. A number of departments are unserved because Stony Brook cannot afford to offer the data bases available from Lockheed and System Development Corporation. Among the unserved are those doing research in art, marine sciences, history, geology, engineering, linguistics, metallurgy, meteorology, and sociology.

It is difficult to estimate the costs involved in providing a full range of data bases from all the commercial vendors. A conservative estimate is that if funds were available, we could do approximately $20,000 of SDC and Lockheed searches during fiscal 1978/79 year.

Computerized literature searching constitutes an increasingly important research tool for the scholarly community. It is hoped that SUSB can continue to adhere to the policy of no-fee for data base services and provide sufficient support to enable these services to continue and expand. The availability of a broad range of these services is essential to the University's research program. Continued availability without cost to the individual researcher, is an effective stimulus to research in many key fields.

HP/bm
att:

xc: Walls, Cook, Courtney

ADEQUACY OF FUNDING FOR LIBRARIES
UNIVERSITY OF MICHIGAN - ANN ARBOR CAMPUS

The purpose of this report is to address two specific questions concerning libraries at the University of Michigan. Are the book acquisition funds adequate, and are the overall operating budgets of the libraries adequate? There has been a general feeling over the past few years that the U of M libraries are losing their respected place among their library peers because of funding constraints. This has been of particular concern in the case of the funds made available for the acquisition of books and other materials by the libraries. Using the maintenance of the U of M's past position as the criterion, two analyses have been undertaken to examine the adequacy of the funding of the University libraries on the Ann Arbor Campus.

The first study is a comparison of the libraries on the Ann Arbor campus (e.g. the University Library System, Business Administration, Clements, Law, and the Michigan Historical Collections; Flint and Dearborn are excluded) to peer library systems. The University Library Staff identified as peers Berkeley, Columbia, Cornell, Illinois, UCLA, and Wisconsin. One institution suggested by the Library Staff, Stanford, was excluded from the study because its data were incomplete. Data were obtained from the yearly statistical survey conducted by the Association for Research Libraries (ARL).[1]

The second study is a self-comparison of funding for Ann Arbor campus libraries over a period of five years. Library data used were for all organized libraries on the Ann Arbor campus as reported to ARL; Educational and General financial data were obtained from annual HEGIS surveys (2300.4); dollars are from all sources of funds.

[1] Data are generally included for the main library, and for law and medical libraries. See Table 10 in Appendix for list of components.

Peer Comparisons

Profile data for the University of Michigan and peer libraries for 1974-75 are shown in Table 1 to provide an institutional perspective. In general, the level of funding for Ann Arbor libraries appeared to be lower relative to its user loads than for a number of peer libraries. Michigan had the third highest headcount enrollment, the second greatest number of Ph.D. fields, and was fourth in numbers of Ph.D's awarded. The operating budget of U of M Ann Arbor libraries was the fourth highest out of seven; while the U of M had the largest Educational and General expenditure level, we ranked fifth in terms of library expenditures as a percentage of Educational and General expenditures. The U of M library holdings were second only to Illinois.

Comparative data on funding for materials and for total library operations are displayed in Graphs 1, 2, and 3 (data are in tabular form in the Appendix). The ARL categories Materials and Binding most closely approximate expenditures typically called "book funds." From 1971-72 through 1974-75 U of M expenditures for materials and binding were below the mean and median; by 1975-76 we were the median school, spending slightly above the average. Note that Berkeley has consistently had higher expenditure levels even without a medical school. An extrapolation of the trend indicates that an expenditure by the U of M in the $2.5 million range would approximate the all-school mean for 1976-77 and one of $2.7 million would equal the projected mean for 1977-78.

In the early 70's Michigan was above the mean and median in total operating expenditures for libraries including expenditures for materials and binding (Graph 2). However, for the past three years Michigan has been at, or below the mean for the peers (it was the median school for all three years) in its total operating expenditures for libraries. Thus for the U of M the increase in relative expenditures for materials and binding has been against the trend of the mean for the peers. Michigan has moved from the sixth rank in 1971-72 to the third ranked school in 1975-76 on the measure of materials and binding as a percentage of total operating expenditures for libraries (Graph 3).

TABLE 1

PROFILE OF PEER LIBRARIES 1974-75

	Total Library Holdings	Total Headcount Enrollment	Ph.D's Awarded	Ph.D. Fields	Total Library Operating Budget	Total E & G Expenditures
Michigan	4,668,186[a]	35,346[b]	722[a]	108[a]	$7,578,835[a]	$268,477,608 [d]
Berkeley	4,649,533	30,004[c]	747	85	8,928,051	208,249,370
UCLA	3,519,424	33,236[c]	486	60	9,899,954	257,471,635
Columbia	4,661,513	15,888[b]	521	64	6,971,962	199,501,878
Cornell	4,272,959	16,607[b]	460	66	6,626,484	96,763,141
Illinois	5,509,926	36,615[b]	747	84	7,720,405	204,492,028
Wisconsin	2,973,300	36,915[b]	819	125	6,348,883	240,470,583

SOURCES: a) ARL Statistics
b) Educational Directory
c) California System Office
d) HEGIS Financial Survey

Academic Planning and Analysis
September 14, 1977

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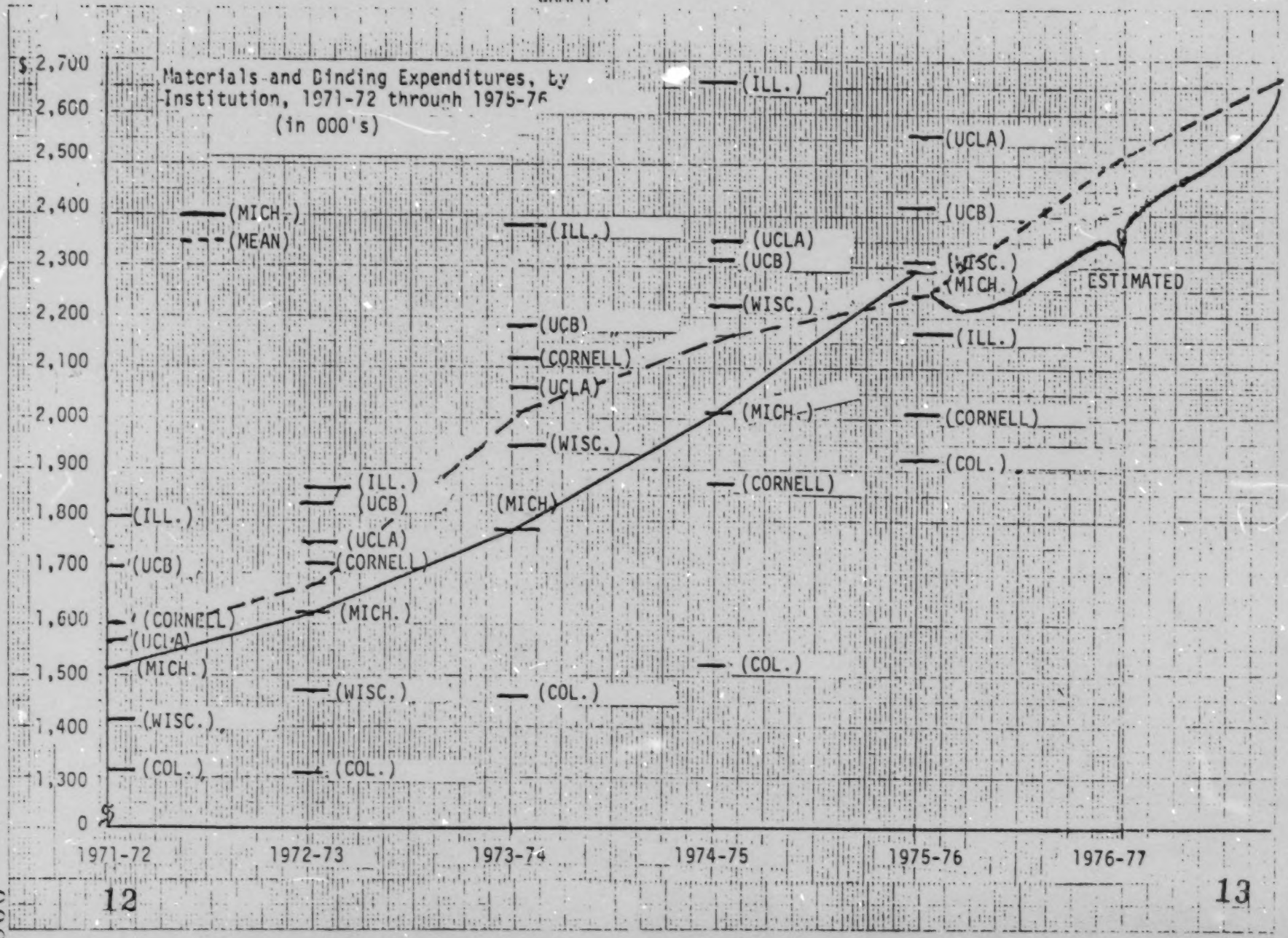
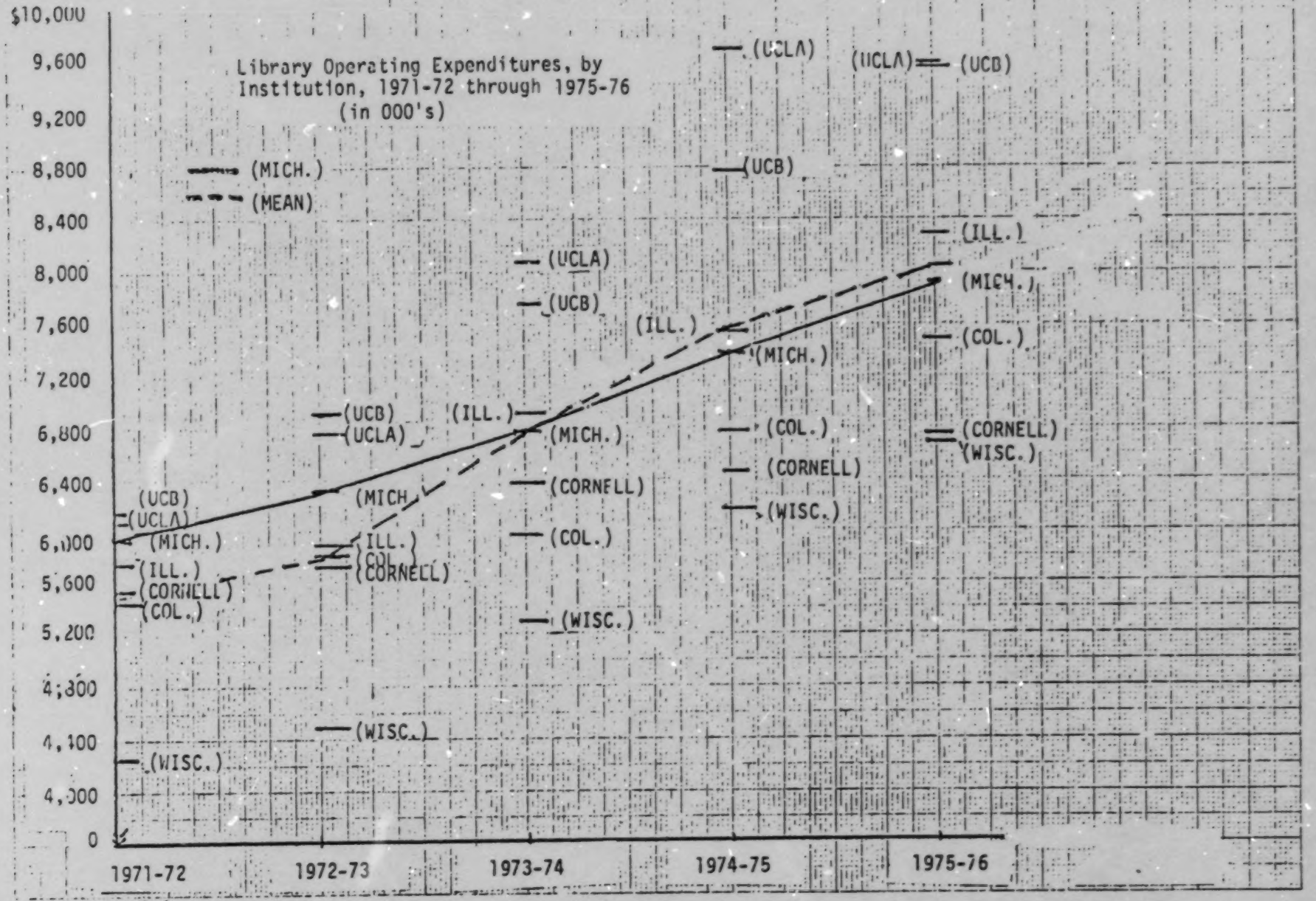
GRAPH 1



GRAPH 2



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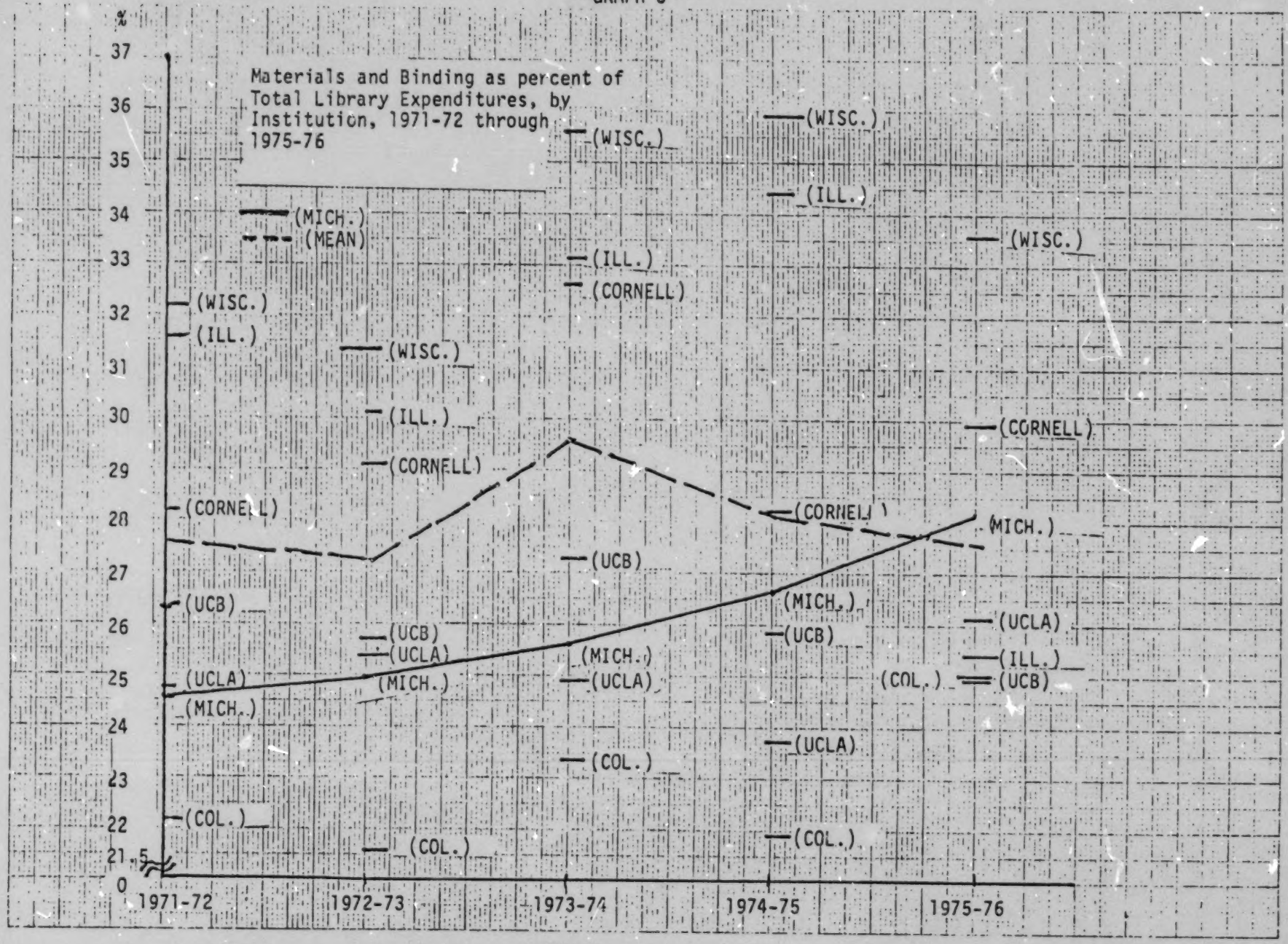
GRAPH 3



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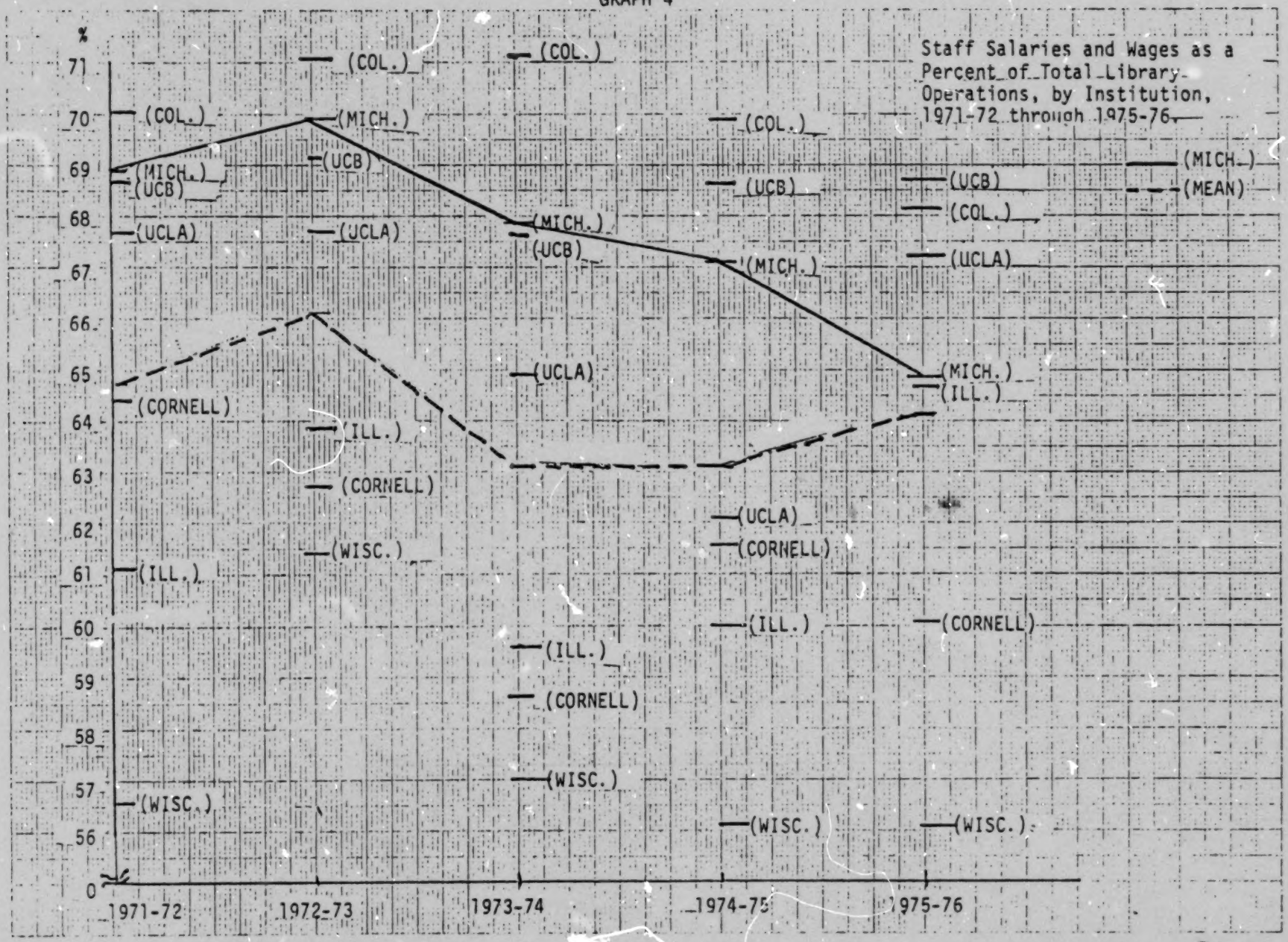
It is in the nature of library operations that approximately 90% of expenditures are devoted to a combination of materials and binding, and salaries and wages. In the past the U of M has spent a larger percentage of total operating dollars on salaries and wages than have most of our peers (Graph 4). That percentage has been dropping. In the last year for which data were available (1975-76) the U of M had the median percentage of expenditure for salaries and wages.

In 1975-76 Michigan's percentage of operating expenditures for materials and binding and for salaries and wages both fell above the mean of the peers. If the ratio between materials expenditures and salaries is maintained at the present level, and if mean standing among the peers is accepted as a criterion for adequacy, then the 1975-76 figure for total library operations ($8,157,010) appears to be an adequate baseline for future budgeting.

Looking at libraries in the larger university context presents a somewhat different picture. Selected library expenditures were analyzed in relation to total university Educational and General expenditures (Graphs 5 and 6). Complete data were available for only three years (1972-73 through 1974-75); during that time Michigan ranked last (or tied for last) relative to peers in expenditures for materials and binding and second to last in the ratio of expenditures for total library operations to total Educational and General expenditures. Michigan's library expenditures have remained stable in relation to E & G expenditures.

Finally, comparing Michigan to its peers on the percent of gross volume additions to the collection, Michigan appears to be growing at a rate less than the mean and it consistently ranked fifth and sixth in rate of growth (Graph 7). However, it must be noted that Michigan had one of the largest collections in the peer group to begin with.

GRAPH 4



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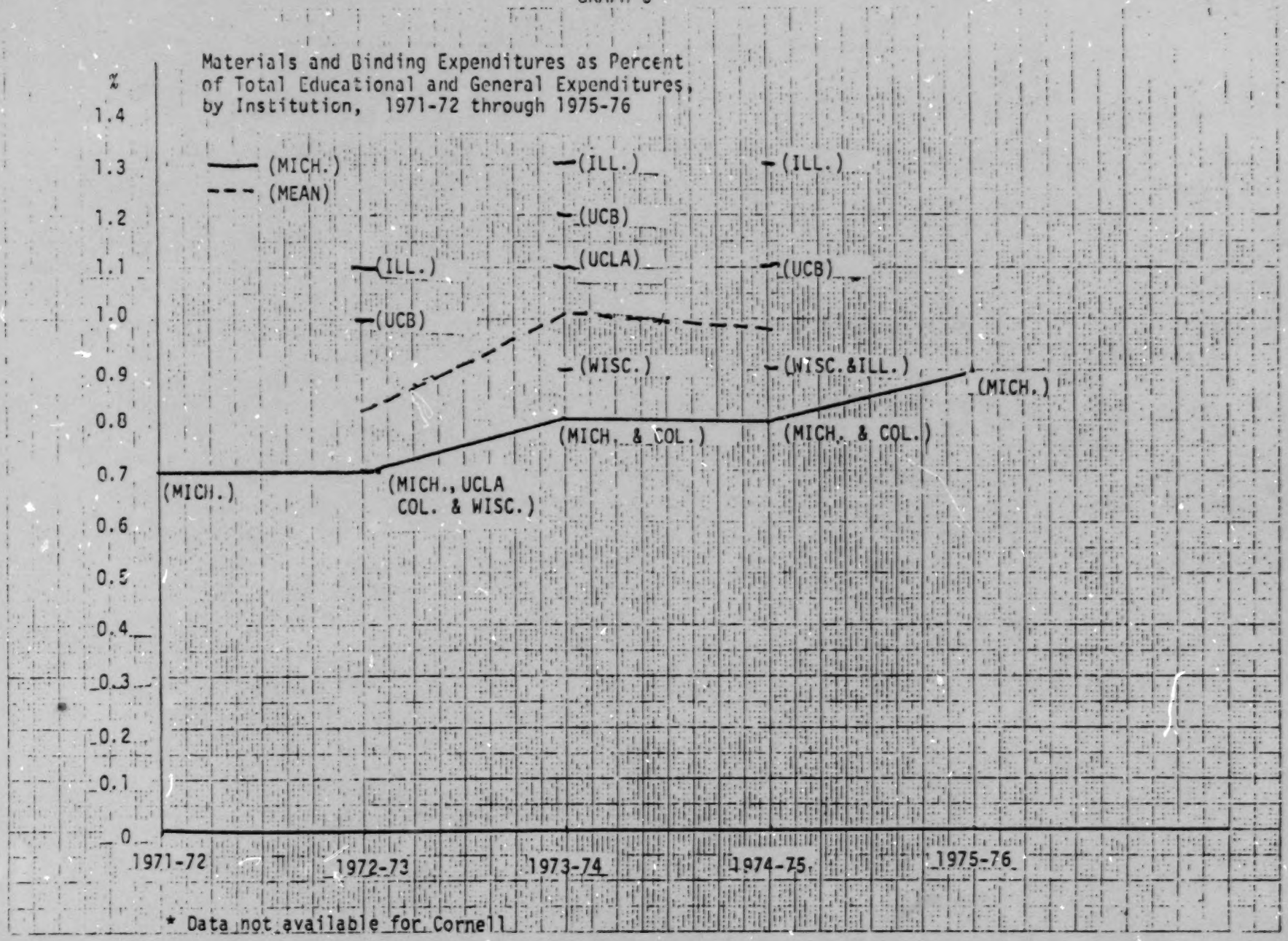
GRAPH 5



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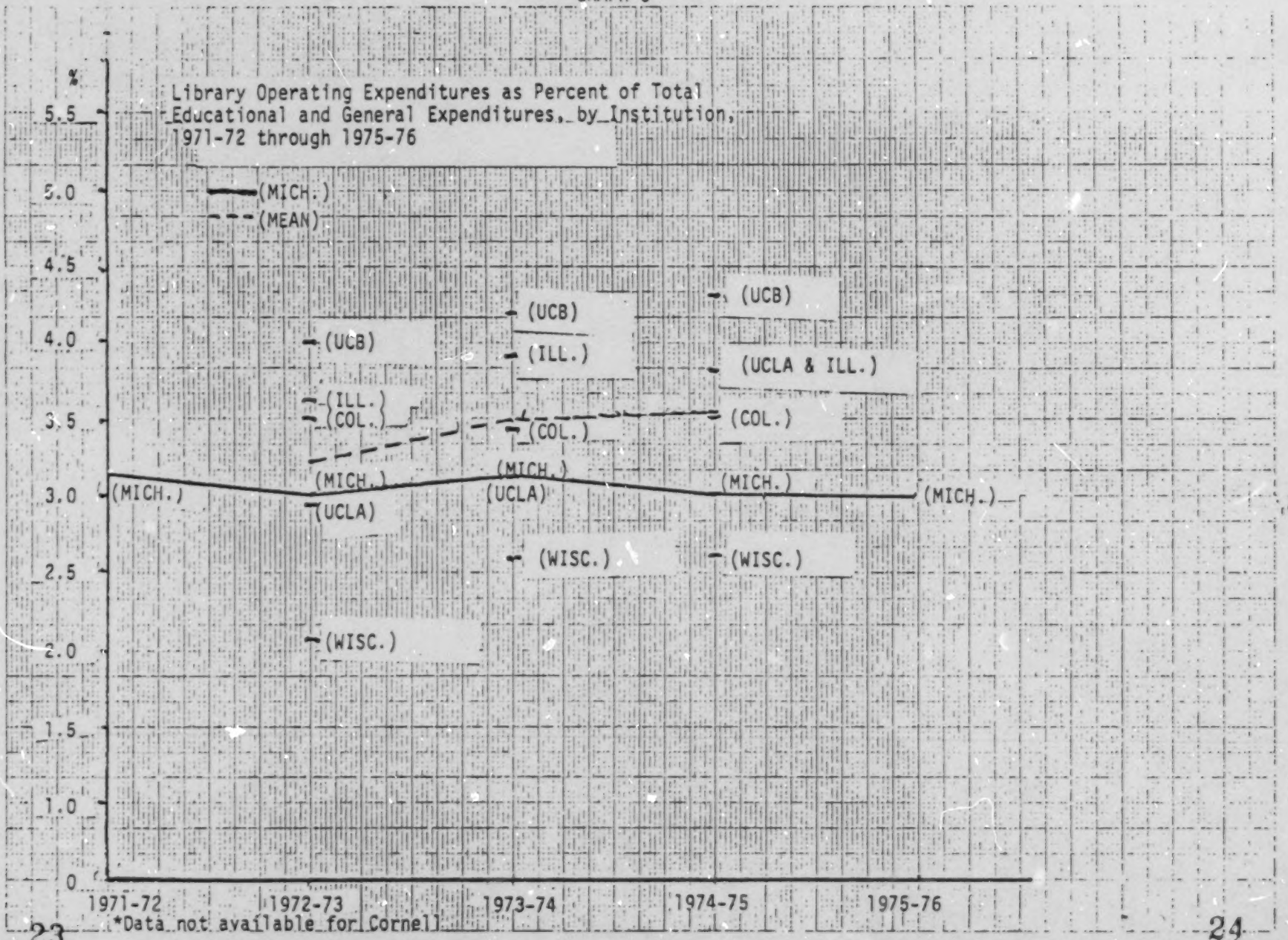
GRAPH 6



*Data not available for Cornell

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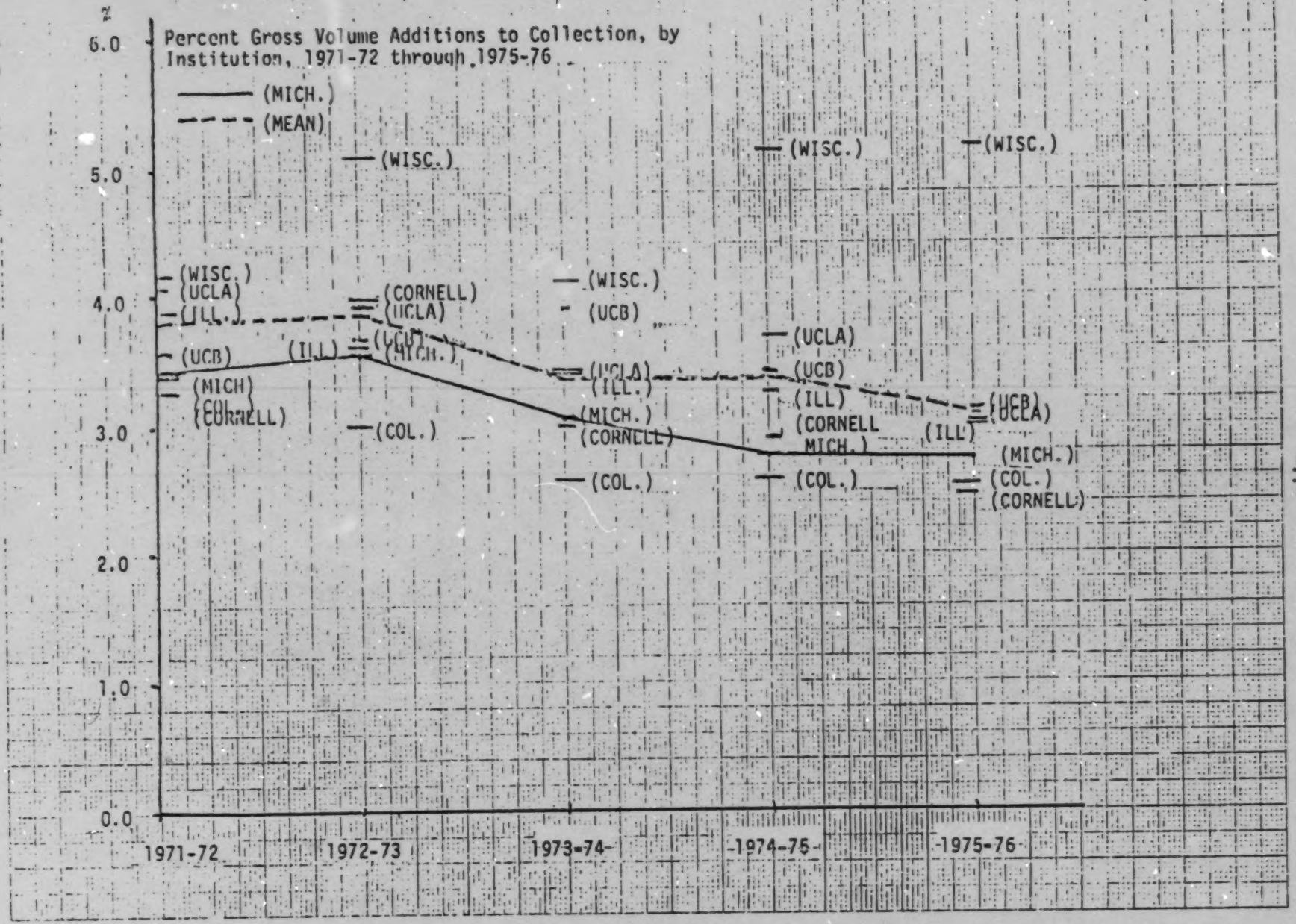
GRAPH 7



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Self-Comparison

In addition to examining library funding relative to peer libraries, trends in University of Michigan library expenditures were examined for the five years 1971-72 through 1975-76. While current-dollar spending for total library operations increased by 32% over the period, adjustment for inflation resulted in a decline of 17% in constant-dollar spending (Graph 8 and Appendix Table 9).[1] Current-dollar expenditures on the materials and binding portion of total library operations increased by 99% over the five years but a higher rate of inflation for this component lowered the trend in constant-dollar expenditures to minus 9%. This combination indicates that an increasing portion of the library budget was allocated to books rather than to other objects of library expenditure to keep real-dollar book purchases from declining more than they did.

When the total library operation is compared to the Educational and General spending of the University, a similar picture emerges. After adjustment for inflation, total Educational and General expenditures show a decline of 7% from 1971-72 through 1975-76. In relative terms, this reveals a shift in real-dollar outlays from library operations to other Educational and General functions. Educational and General expenditures have not kept pace with rising prices; expenditures on books and periodicals has not kept pace with Educational and General spending, and total library spending has not kept pace with that on books and periodicals.

[1] Total library operation was deflated by the Higher Education Price Index devised by Halstead of USOE (source: Chronicle of Higher Education, September 6, 1977. The books and periodicals component of that Index was used to deflate material and binding expenditures. The HEPI was also used to defate total Education and General expenditures of the University, as well as the salaries and wages component of total library operation.

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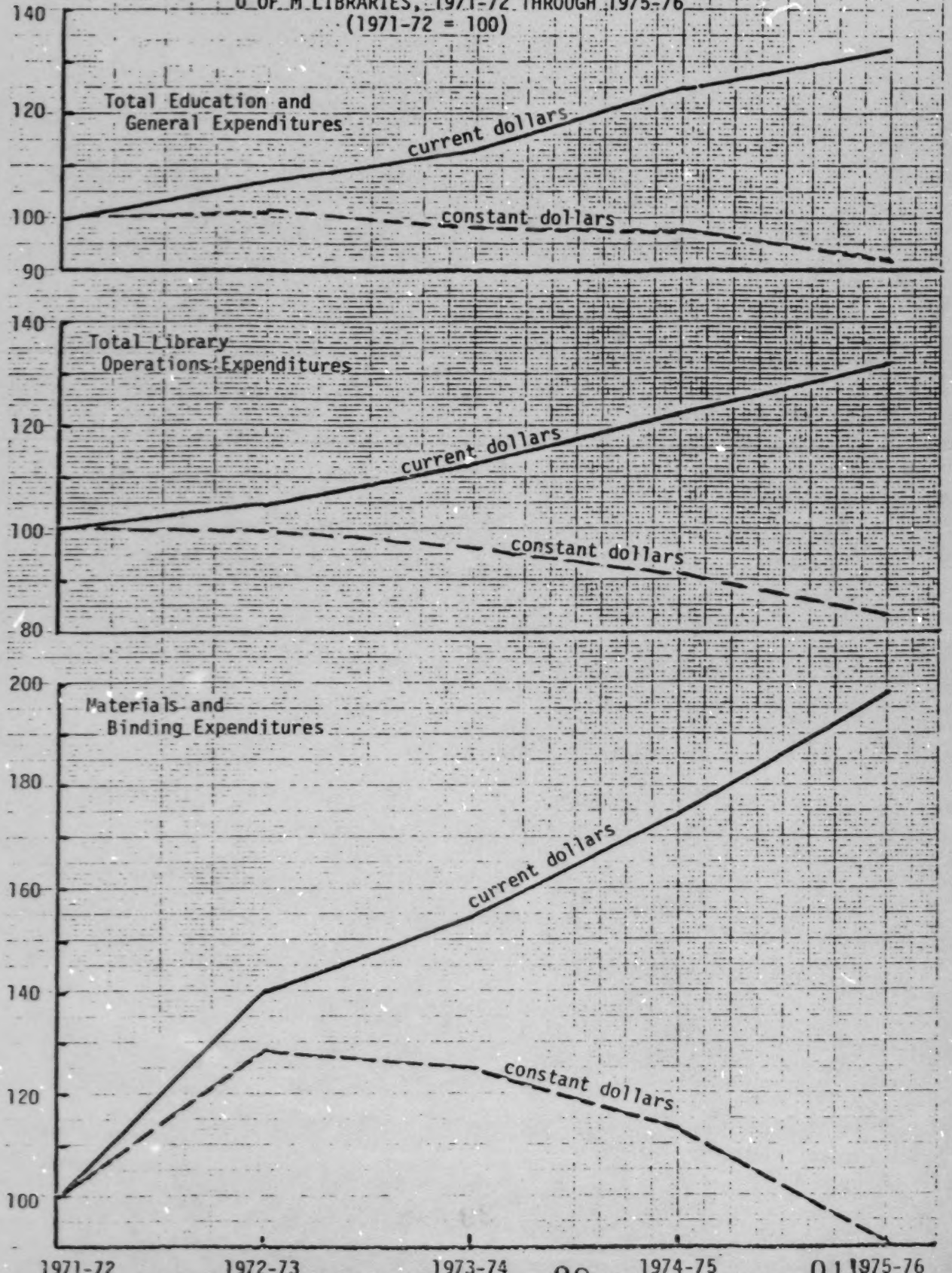
GRAPH 8

CURRENT AND CONSTANT DOLLAR COMPARISONS,
U OF M LIBRARIES, 1971-72 THROUGH 1975-76
(1971-72 = 100)



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Summary and Conclusions

The purpose of this analysis has been to address questions of the adequacy of book acquisition funds and of overall operating budgets for Ann Arbor campus libraries.

The following general conclusions may be drawn from the evidence presented in the peer comparisons. Over the past five years the U of M libraries have tended to spend a greater percentage of their total operating budgets on staff salaries and wages than have the peers. At the same time, expenditures for materials and binding (book funds) have tended to be somewhat lower than those of the peers, both in actual and relative amounts. This relationship shifted in 1975-76 at which time the U of M libraries became the median of the peer group and rose slightly above the mean on both percentage of expenditures for salaries and wages, and for materials and binding . However, Michigan still falls slightly below the mean in its overall operating expenditure level in most recent years.

One additional factor should be pointed out. There is a relatively low percentage of total Educational and General expenditures allocated to libraries at the U of M. If the average of Educational and General expenditures of the peers for 1974-75 (3.6%) had been expended at the U of M, the libraries would have received an addition of 20% to their total operating funds (approx. $1,500,000). The conclusion seems clear that in terms of total University operation the libraries have received less dollar support than libraries at other institutions, and if they received only the average they would have had a substantially higher level of dollar support for books funds and/or total expenditures.

Relative to current holdings, the present gross volume acquisition for the U of M libraries is lower than that of its peers. However, Michigan's current holdings rank second to Illinois in the peer group of seven, with Columbia and Berkeley close behind.

Clearly, inflation has erroded the absolute level of financial support for the University's Education and General functions. In this context library administrators have been forced to place a lower priority on library operations other than the purchase of books and periodicals. By the same token, inflation has resulted in University administrators placing a lower priority on libraries than on other portions of the Education and General budget, collectively.

Given the impact of inflation and the preliminary estimates of current book budgets of peer schools (see Wagman letter, Appendix A), it would appear that U of M library budgets would have to be increased in order for Michigan to maintain or improve its position.

Massachusetts Institute of Technology

M.I.T. LIBRARIES

COLLECTION ANALYSIS PROJECT

INTERIM REPORT

October 21, 1977

Revised, November 4, 1977

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Economic Conditions

REVIEW OF PAST ECONOMIC TRENDS

Analysis of the impact of economic conditions on the M.I.T. Libraries during the past 20 years documents a transition from rapid growth in collections size and materials budgets during the 1960's to retrenchment and decline in the 1970's. Although economic factors alone do not determine the course of collection development, they play a crucial role. During the 1960's the M.I.T. Libraries experienced a period of considerable affluence. However, as the general economy declined in the early 1970's, the Libraries were affected twice by the economic downturn: first by the negative impact of the general economic problems on the Institute, and second by the erosion of purchasing power through inflation-driven increases in the cost of library materials. The following table documents the impact on the materials budget:

Table 1

TOTAL M.I.T. LIBRARIES EXPENDITURES FOR LIBRARY MATERIALS, 1970-1977

Year	Current Dollars	Constant Dollars*
1970	$428,773	$428,773
1971	563,290	536,467
1972	586,344	537,930
1973	606,797	523,101
1974	691,733	544,711
1975	730,192	529,125
1976	758,574	519,571
1977	829,355	549,242

*GNP deflator 1970=100

Sources: Library budgets 1970-1977
Survey of Current Business, June 1977
Statistical Abstract of the United States, 1976
(Washington, D.C.: Government Printing Office, 1976), p. 433.

However, the GNP implicit deflator, an index of "the price level of all final goods and services which enter the gross national product,"[5] understates the actual impact of the rate of inflation for libraries.

While book prices increased at an annual rate paralleling the general inflation rate, serial costs rose at a rate far exceeding that of the general price level. The table below documents the magnitude of the loss in purchasing power.

Table 2

TOTAL M.I.T. LIBRARIES SERIAL EXPENDITURES, 1970-1977

Year	Current Dollars	Buying Power*
1970	$208,788	$173,990
1971	262,778	196,102
1972	304,330	198,908
1973	301,314	161,130
1974	381,999	186,340
1975	442,734	192,493
1976	466,846	179,556
1977	530,294	186,723

*U.S. Periodical Index 1967-1969=100

Sources: Library budgets, 1970-1977
Norman B. Brown, "Price indexes for 1977, U.S. periodicals and serial services," *Library Journal* (July 1977): p. 1463.

IMPACT ON M.I.T. LIBRARIES

While the forces at the root of the economic problems are outside the control of the Libraries, their impact has been decisive. Between 1968 and the present period the annual rate of increase in the materials budget declined, and the portion of serial to monograph expenditures increased from 36 per cent to 64 per cent for all the libraries in the system, ranging from 21 per cent for the Rotch Library to 84 per cent for the Science Library (see Illustration 18). The balance between book and serial expenditures deteriorated despite efforts to control these expenditures through cancellation of duplicate and infrequently-used serial titles. The effect on the collections was manifold. Two important indicators underscore the damaging impact. First, the rate of growth in the Libraries' printed holdings declined; that is, fewer volumes are being added annually than during the 1960's. Second, the number of paid subscriptions has remained almost constant for the past five years.

OUTLOOK FOR THE FUTURE

What is the outlook for the future? While all projections have inherent limitations because of the assumptions upon which they are based, economic projections are particularly hazardous because of the complexities and interactions of many factors. But despite the uncertainties surrounding future economic conditions, analysis of the critical factors suggests general conclusions on what the Libraries can expect in the future.

The most important factor will be the fiscal conditions of the Institute. For the past four years the Institute has operated with a significant deficit despite efforts to reduce expenditures through budget cuts and to increase operating revenues. The administration has brought the operating budget into balance in 1977-78 and is committed to keeping it in balance in each subsequent year. The present outlook for achieving this goal is one of guarded optimism. The past year marked the first significant growth of research activities after seven years of little or no growth. Present projections anticipate future growth in sponsored research of approximately 8 per cent. Second, the M.I.T. Leadership Campaign will contribute significantly to the future fiscal strength of the Institute by increasing the current endowment by $100 million. However, the Institute will also continue efforts to limit the rate of growth of expenditures. While these dual efforts of increasing revenues and restraining expenditures insure the fiscal integrity of the Institute, the fiscal pattern for the next few years will be one of limited growth in recurring expenditures and in new projects and programs.[6] For the Libraries this means slow growth in the materials budget and no sharp increases in new funding. Although the Institute is committed to offset the loss in purchasing power due to price increases of library materials, additional funds will probably be limited to supporting new areas of research and instructional programs.[7]

While more than 90 per cent of the materials budget is supported through the general educational Institute funds, grants from foundations and the

federal government and endowed funds contribute a small percentage. It is difficult to predict the availability of future special appropriations. Although funds from foundations have in the past significantly contributed to the growth of M.I.T.'s collections, the current prospect for future major foundation grants is not good. Major foundations have gradually shifted their library-related funding to supporting projects with broad implications or national impact. Consequently the foundation support for collection-building has declined. Presently it appears that availability of foundation grants will not have a major impact on the collection growth.

The outlook for the availability of government funds is equally dim. It is uncertain whether federal funding under Title II-C will have a major impact on the M.I.T. Libraries.

Finally, the outlook for increased library endowments is not optimistic. While it is evident, given the size and nature of the M.I.T. Libraries, that the Libraries are seriously under-endowed, it is difficult to see major improvements in the immediate future. In 1977 the total endowment income available to the Libraries constitutes 6 per cent of the materials budget. Although endowed funds are an important source of funding in a few areas, such as mathematics and chemistry, in most subject areas the availability of endowed funds for collections building is too limited to have a major impact. Since endowed funds have not significantly expanded during the past ten years, the Libraries cannot presently anticipate major improvements.

While future availability of grants and endowed funds will play a minor role in determining the course of the collections, the future inflation factors of library materials will have a deciding impact. During the 1970's the costs of serials and books rose at an accelerating rate. For the period 1970-1977 the cost of a U.S. serial subscription has increased by 136 per cent. On an annual basis the rate of increase rose from 9 per cent in 1974 to 12.6 per cent

in 1975 to 12.9 per cent in 1976. However, the rate of increase declined for 1977 to 9.2 per cent.[8] This lends support to John Dessauer's prediction of a steady decline in the rate of inflation. He projects average price increases for serials of approximately 8 per cent annually for the period 1978-1981.[9]

Compared to the rate of increase of serial subscriptions, the rate of inflation for book prices has been slower and has paralleled the general rate of inflation. During the period 1970-1977 book prices increased by 40 per cent. Available economic indicators project a general rate of inflation of approximately 5.4 per cent per year for the next five years.[10] Available projections indicate that book prices will continue to increase at a similar rate for that period.

SUMMARY OF ECONOMIC TRENDS

In summary, analysis of past trends and present conditions suggests the following economic outlook for the Libraries for 1978-1982:

1. There will be no significant real growth in the materials budget except in additional funds to develop specific areas.
2. The availability of substantial grants from foundations or the federal government is doubtful, and the potential of increasing the Libraries' endowment is uncertain.
3. Book and serial prices will continue to rise, but the rate of increase is expected to remain relatively constant. Cost increases will be higher in the sciences than in other fields.

PRICE TRENDS AFFECTING ACADEMIC LIBRARY BUDGETS

BY

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Introduction

The allocation of financial resources in academic libraries is receiving increasing attention. Library administrators have been and will continue to scrutinize budget items in order to balance library needs with inflationary pressures.

The Purdue University Libraries and Audio-Visual Center has been studying price trends of budget items in order to provide information to management for budgetary planning. Initially, the study focused on the allocation of materials funds among the teaching departments at Purdue. A major part of the study was the determination of prices paid by Purdue for books and serials. Four years of price data have been gathered and are presented in a later section of this report.

While materials expenditures represent a significant portion of the budget, other items such as salaries, wages, equipment costs, telephone costs etc. are of importance also. This report brings together price trend information about items of importance in the academic library budget. The objective of this report is to present a general indication of price trends in significant items.

Purdue Prices

Library materials are acquired by the Purdue Library system in several ways; approval plan, serials funds, departmental free balances, gifts and academic department funds. The purposes of the approval plan are to serve as a selection tool, expedite book delivery to the campus and aid in collection building. The approval plan budget is fixed annually. Vendors are supplied with a profile

which lists subjects of interest to Purdue. A publisher's output which meets the interest profile and appropriate level is submitted for review. Librarians then select materials for purchase. "In every instance the inclusion or exclusion of a book depends on the book itself, its approach, and its relation to the Purdue academic program." The approval plan is monitored by an approval plan review committee composed of Purdue library faculty members.

Departmental free balances represent funds which have been assigned to academic departments for purchases of materials not acquired through the approval plan. Books purchased with these funds relate to the subject field of the academic department in three ways; books about the subject, books of interest to the subject, and books of a general nature which may relate to the subject indirectly. For example, the library of the Krannert School of Industrial Administration purchases books about the subject of economics. In addition, books which are of interest to the subject, such as operations research and mathematics are purchased as well as general materials which are indirectly related to economics, such as psychology.

Purdue Serials funds are assigned to academic departments for the purchase of journals and other serial publications. Academic departments may purchase journals about their particular subjects or serials related to their subjects.

Using the library in the Krannert School as an example, journal purchases include Operations Research, Management Science, and American Scientist as well as American Economic Review, Quarterly Review of Economics etc.

Tables 1, 2, and 3 present average prices paid by Purdue for books and serials for each teaching department account. The data do not represent purchases in the subject area named because of the different types of purchases discussed above.

Price data for books were calculated by sampling payment slips for each departmental account. A random sample of 20 slips was chosen from each account.

Average Prices Paid for Approval Plan Books
Purdue University Libraries
Fiscal Years 1971-74

School/Department	1971 Average Price	1972 Average Price	1973 Average Price	1974 Average Price	% Change 1971-1974
AGRICULTURE					
Agricultural Economics	10.55	9.12	8.64	12.51	18
Agricultural Engineering	18.69	19.66	15.47	17.81	-5
Agronomy	9.70	12.32	10.72	17.89	84
Animal Sciences	14.72	19.93	12.51	*18.17	23
Biochemistry	16.95	18.29	-	18.40	9
Botany & Plant Pathology	10.65	15.23	13.24	17.28	62
Entomology	16.24	13.27	17.16	20.34	25
Forestry & Conservation	14.65	10.99	7.34	13.24	-10
Horticulture	8.93	12.78	12.46	9.56	7
Agriculture Totals	13.45	14.26	11.47	16.11	20
ENGINEERING					
Aeronautics & Astronautics	11.88	17.64	*21.61	17.34	46
Chemical	15.91	24.46	18.24	22.88	44
Civil	11.34	13.23	14.12	15.24	34
Electrical	13.72	15.71	15.51	11.76	-14
Industrial	10.11	9.99	15.96	12.91	28
Materials and Metallurgical	18.43	17.39	20.49	23.11	25
Mechanical	14.00	16.14	16.80	14.79	6
Nuclear	12.85	15.43	15.41	15.80	23
Engineering Totals	13.53	16.28	17.06	16.75	24
HOME ECONOMICS	8.31	12.90	8.40	14.18	71
HUMANITIES, SOCIAL SCIENCE & EDUCATION					
Audiology	12.01	12.83	12.65	13.97	16
Child Development & Family Life	6.93	8.27	6.42	9.40	36
Communications	6.61	5.77	6.66	9.55	44
Creative Arts	11.81	7.53	10.65	10.70	-9
Education	7.09	5.96	4.84	8.17	16
English	7.60	4.94	6.40	9.04	19
French	7.14	6.91	10.28	9.06	27
German	6.50	8.42	8.43	10.30	58
History	6.10	7.46	9.73	9.78	60
Philosophy	6.20	6.79	7.77	8.36	35
Physical Education Men	8.09	8.65	7.76	10.21	26
Physical Education Women	9.87	8.00	7.40	6.96	-29
Political Science	7.06	10.79	5.93	9.91	40
Psychology	10.21	7.01	7.22	10.59	4
Russian	9.00	7.79	10.56	9.73	8
Sociology & Anthropology	6.70	5.96	7.02	10.33	54
Spanish	6.41	7.14	8.35	10.12	58
Humanities Totals	7.92	7.65	8.09	9.95	26
INDUSTRIAL MANAGEMENT	9.02	9.41	12.37	11.79	31
PHARMACY	16.55	17.04	12.24	13.26	-20
SCIENCE					
Biology	15.93	14.95	11.88	16.27	2
Chemistry	13.61	15.07	16.73	21.47	58
Geosciences	16.03	13.51	15.56	19.28	20
Mathematics	10.48	10.23	10.61	11.69	12
Physics	16.64	16.81	12.50	23.10	39
Science Totals	14.54	14.11	13.45	18.36	26
TECHNOLOGY					
Aviation Technology	8.97	8.75	* 9.19	* 8.34	-7
Construction Technology	-	-	-	-	-
Electrical Technology	7.29	7.85	8.66	11.67	60
Industrial Engineering & Manufacturing Technology	11.75	9.28	* 7.67	*12.37	5
Industrial Supervision	8.71	-	-	*10.35	19
Nursing	12.36	10.20	7.78	8.55	-31
Technology Totals	9.82	9.02	8.21	10.01	2
VETERINARY MEDICINE	14.15	14.01	15.12	16.57	17

* less than 20 payment slips in the sample.

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Average Prices Paid for Non-Approval Plan Books
Purdue University Libraries
Fiscal Years 1971-74

School/Department	1971 Average Price	1972 Average Price	1973 Average Price	1974 Average Price	% change 1971-1974
AGRICULTURE					
Agricultural Economics	7.61	8.52	5.28	9.13	20
Agricultural Engineering	12.98	11.67	16.45	18.05	39
Agronomy	8.85	11.95	12.73	13.11	48
Animal Sicences	15.81	12.08	11.89	13.98	-12
Biochemistry	12.92	13.78	16.55	20.22	57
Botany & Plant Pathology	9.44	14.87	13.95	22.23	135
Entomology	11.14	14.63	15.80	18.93	70
Forestry & Conservation	11.09	8.69	*19.41	9.61	-13
Horticulture	11.66	6.98	12.96	7.70	-34
Agriculture Totals	11.29	11.27	13.42	14.43	28
ENGINEERING					
Aeronautics & Astronautics	14.91	12.12	15.16	16.81	13
Chemical	21.47	18.55	16.50	16.08	-25
Civil	12.24	8.34	12.81	16.80	37
Electrical	16.40	14.09	13.38	16.28	- 1
Industrial	8.37	11.93	12.59	19.04	127
Materials and Metallurgical	* 8.07	17.25	24.91	19.38	140
Mechanical	11.53	10.62	13.92	17.34	50
Nuclear	*16.00	*17.52	17.16	16.13	1
Engineering Totals	13.71	13.45	15.51	17.24	26
HOME ECONOMICS	8.09	11.44	10.75	9.43	17
HUMANITIES, SOCIAL SCIENCE & EDUCATION					
Audiology	8.88	10.48	12.48	10.15	14
Child Development & Family Life	6.74	8.72	9.40	11.12	65
Communications	10.35	8.72	9.64	8.08	-22
Creative Arts	13.18	11.76	8.92	12.21	- 7
Education	7.23	5.56	5.26	6.67	- 8
English	9.36	7.00	12.69	10.78	15
French	6.65	10.11	9.84	15.39	131
German	10.35	8.36	9.37	12.47	20
History	10.90	9.67	10.25	14.07	29
Philosophy	11.12	11.07	5.95	10.15	- 9
Physical Education Men	7.16	7.56	8.48	8.97	25
Physical Education Women	8.01	8.18	10.46	6.78	-15
Political Science	8.45	5.98	7.93	7.27	-14
Psychology	8.30	9.10	11.50	11.14	34
Russian	7.39	6.50	4.90	15.94	116
Sociology & Anthropology	11.46	8.56	7.71	7.67	-33
Spanish	5.45	5.11	4.38	6.53	20
Humanities Totals	8.88	8.38	8.77	10.18	15
INDUSTRIAL MANAGEMENT	9.54	8.61	8.28	7.89	-17
PHARMACY	*20.00	13.68	15.60	17.87	-11
SCIENCE					
Biology	19.69	14.85	15.30	16.52	-16
Chemistry	21.28	16.78	14.29	19.29	- 9
Geosciences	* 8.10	16.96	9.84	10.77	33
Mathematics	9.93	11.79	12.02	10.09	2
Physics	8.01	14.87	15.09	16.19	102
Science Totals	13.01	15.05	13.31	13.04	0
TECHNOLOGY					
Aviation Technology	7.51	8.76	9.64	14.19	94
Construction Technology	-	-	-	-	-
Electrical Technology	11.34	11.12	14.16	17.48	54
Industrial Engineering & Manufacturing Technology	10.45	*7.16	*13.55	* 9.85	-6
Industrial Supervision	7.97	-	11.74	*14.25	79
Nursing	6.99	9.27	6.84	12.78	83
Technology Totals	8.81	9.68	10.69	14.70	67
VETERINARY MEDICINE	11.47	18.02	17.13	8.38	-27

* less than 20 payment slips in the sample

Average Prices Paid for Serials
Purdue University Libraries
Fiscal Years 1971-74

School/Department	1970-71 Average Price	1971-72 Average Price	1972-73 Average Price	1973-74 Average Price	% change 1971-74
AGRICULTURE					
Agricultural Economics	16.88	21.32	24.34	21.52	27
Agricultural Engineering	14.35	19.24	17.49	18.47	29
Agronomy	30.50	33.56	41.84	47.59	56
Animal Sciences	21.64	22.19	24.10	33.38	54
Biochemistry	73.70	82.17	95.88	116.74	58
Botany & Plant Pathology	27.27	34.46	33.62	45.07	65
Entomology	23.15	30.88	29.41	39.09	69
Forestry & Conservation	17.84	16.74	19.01	23.86	34
Horticulture	20.87	19.50	22.65	29.33	41
Agriculture Totals	28.17	32.43	35.84	43.46	54
ENGINEERING					
Aeronautics & Astronautics	51.85	56.67	56.67	77.28	49
Chemical	40.53	49.88	49.88	58.36	44
Civil	20.81	27.06	27.06	32.19	55
Electrical	53.12	57.70	57.70	79.20	49
Industrial	26.68	29.10	29.10	32.55	22
Materials and Metallurgical	51.64	56.58	56.58	70.61	37
Mechanical	46.93	47.11	53.78	62.43	33
Nuclear	65.95	66.71	66.71	80.75	22
Engineering Totals	44.98	50.19	57.82	64.69	44
HUMANITIES, SOCIAL SCIENCE & EDUCATION					
Art & Design	14.89	16.95	17.21	17.29	16
Audiology & Speech	18.05	20.47	20.27	24.33	35
Communication	17.08	15.11	17.32	26.88	57
Comparitive Literature	13.21	14.12	14.43	12.61	-05
Education	15.99	20.55	18.39	18.40	15
English	9.57	12.17	13.51	14.13	48
History	12.35	12.51	14.16	21.10	71
Modern Language	10.68	13.07	13.68	16.62	56
Music	9.41	10.06	11.79	13.27	41
Philosophy	16.20	17.26	17.32	20.52	27
Physical Education-Men	12.16	12.08	10.64	12.66	04
Physical Education-Women	14.92	15.40	16.81	20.62	38
Political Science	32.34	29.97	28.83	35.29	09
Psychology	27.86	19.13	32.85	40.35	45
Sociology	20.77	21.54	22.66	27.37	32
Theater	8.82	9.81	9.04	9.91	12
Humanities Totals	17.82	19.91	19.53	23.40	31
HOME ECONOMICS	15.25	18.61	17.08	20.17	32
INDUSTRIAL ADMINISTRATION	29.34	32.87	35.93	35.45	21
PHARMACY	44.11	53.65	61.16	69.29	57
SCIENCE					
Biology	50.97	56.91	69.29	82.02	61
Chemistry	68.71	77.44	90.36	104.86	53
Geoscience	36.42	43.50	44.03	54.38	49
Mathematics	43.97	44.39	56.88	65.96	50
Physics	71.54	76.20	91.76	120.20	68
Sciences Totals	55.94	61.54	73.23	87.17	56
TECHNOLOGY					
Aviation Technology	20.41	24.31	20.49	23.90	17
Manufacturing Technology	20.75	16.09	21.67	28.50	37
Industrial Education	21.80	16.27	15.73	17.64	19
Nursing Technology	11.55	13.06	13.63	13.78	19
Technology Totals	17.64	19.02	17.73	20.34	15
VETERINARY MEDICINE	38.37	45.91	51.37	67.24	75

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Accounts which contained less than 20 payment slips were sampled 100%.

Data for average serials prices are based on all serials purchases. Summary data showing number of titles and total amount spent were used to calculate average prices. The prices shown in Table 3 cannot be interpreted as prices paid for journals in the subject area named because of the mix of purchases in each account.

Published Price Data

The major published sources of information regarding book and serial price data are Publishers Weekly, Bowker Annual and Library Journal. Each publication summarizes price information by subject field and computes and overall average figure for the trade. Their coverage is very broad; thus, the overall average is of limited value to the academic library planner. The price data related to specific subject fields is valuable to academic libraries because they show general indications of trend. Projections of trend lines give the library planner reasonable but limited forecasts of likely prices in the specific subject area. Figures 1 through 9 show projections of average prices for books and serials for selected subjects through 1976. The projections are based on a constant ten year growth rate and were calculated using the formula: $\log y = \log a + \log bx$ The dots on the charts represent actual prices.

Salaries and Wages

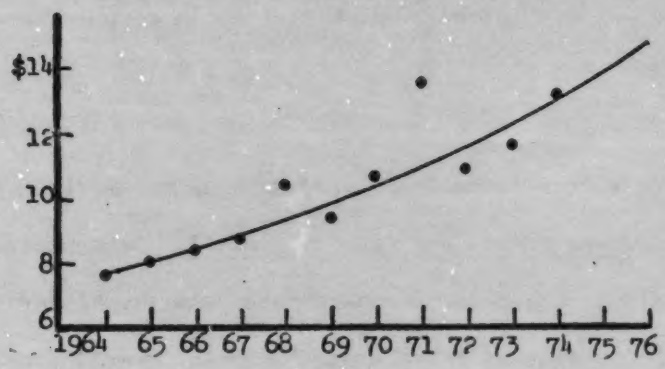
Academic libraries generally are concerned with two categories of employees; professional (that is, people who are considered professional librarians) and clerical. Both Library Journal and Special Libraries have published salary data in recent years; however, the data are not continuous for a sufficient number of years to show the trend. Since this report is limited to prices affecting academic library budgets, data related to teaching faculty salaries gives a reasonable indication of trend. Table 4 shows two price indices for professional wages; one includes salaries for teaching faculty of all ranks and the second is for chief librarians only.

FIGURE 1

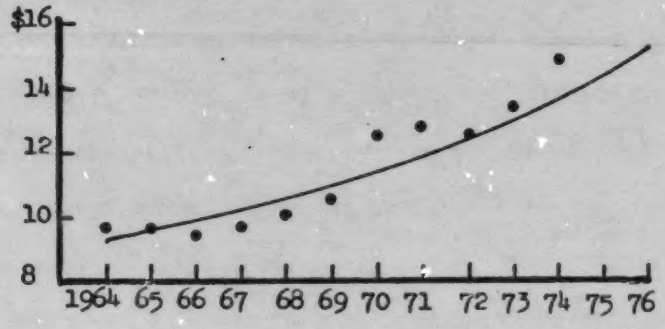
BOOK PRICES - SELECTED SUBJECTS

1964-1974

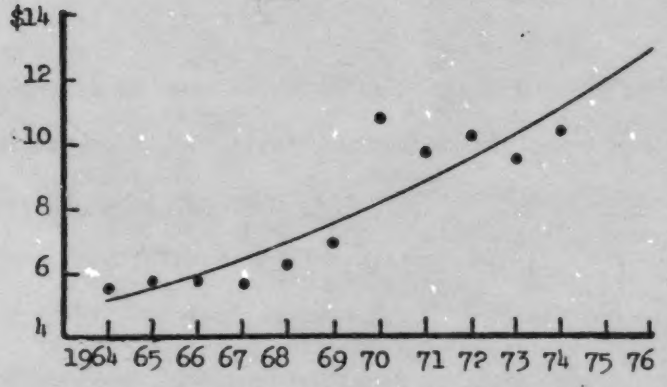
AGRICULTURE



BUSINESS



EDUCATION



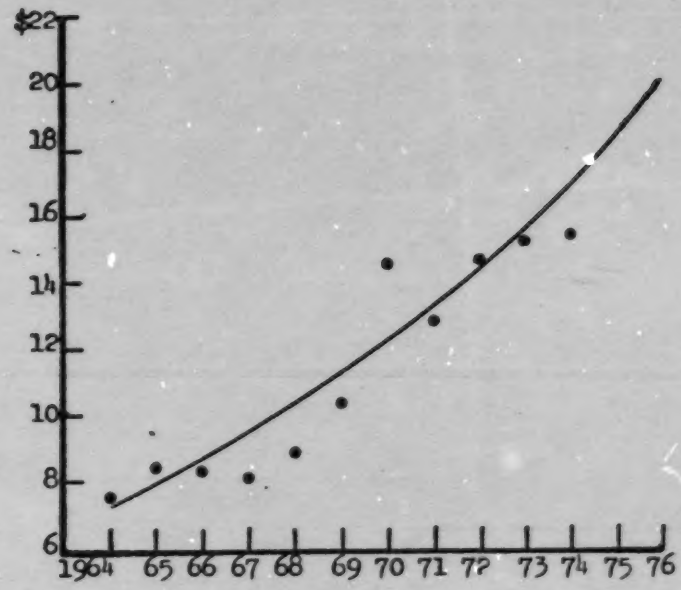
Sources: Bowker Annual and Publishers Weekly

FIGURE ?

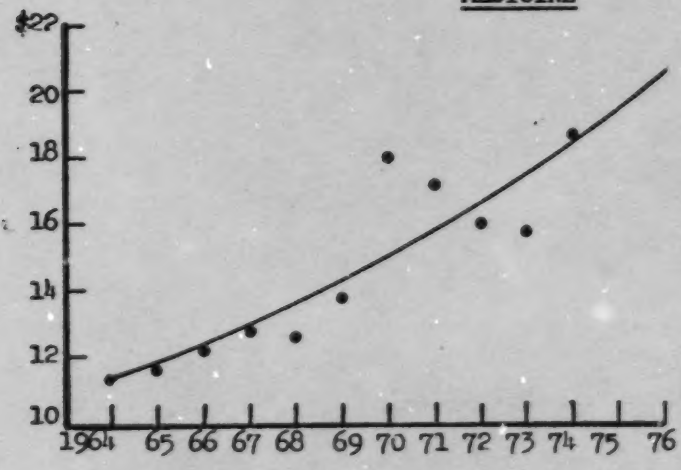
BOOK PRICES - SELECTED SUBJECTS

1964-1974

HISTORY



MEDICINE



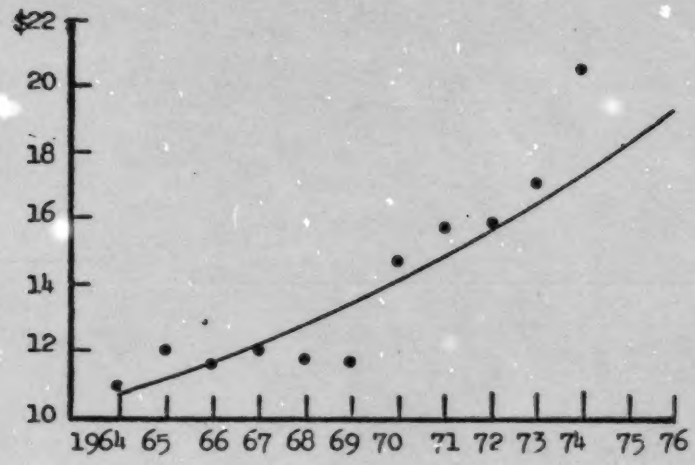
Sources: Bowker Annual and Publishers Weekly

FIGURE 3

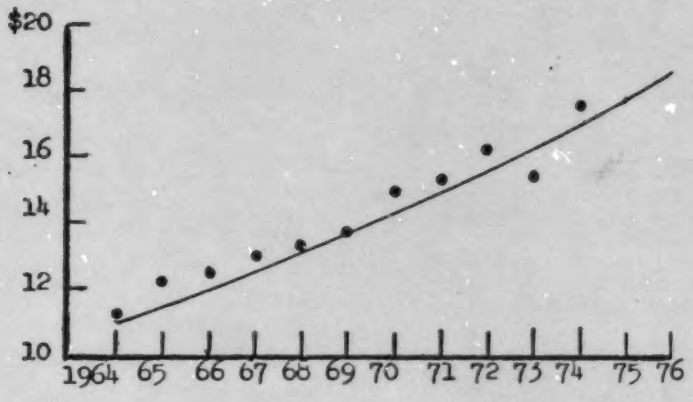
BOOK PRICES - SELECTED SUBJECTS

1964-1974

SCIENCE



TECHNOLOGY

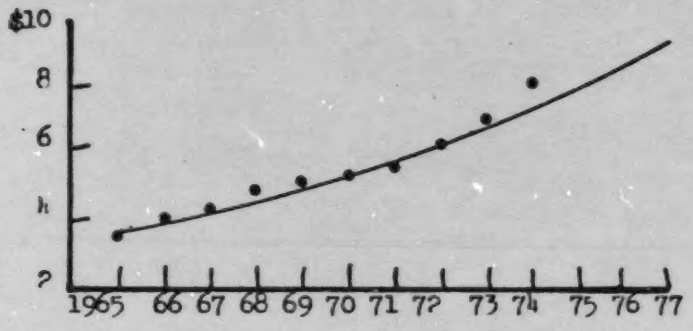


Sources: Bowker Annual and Publishers Weekly

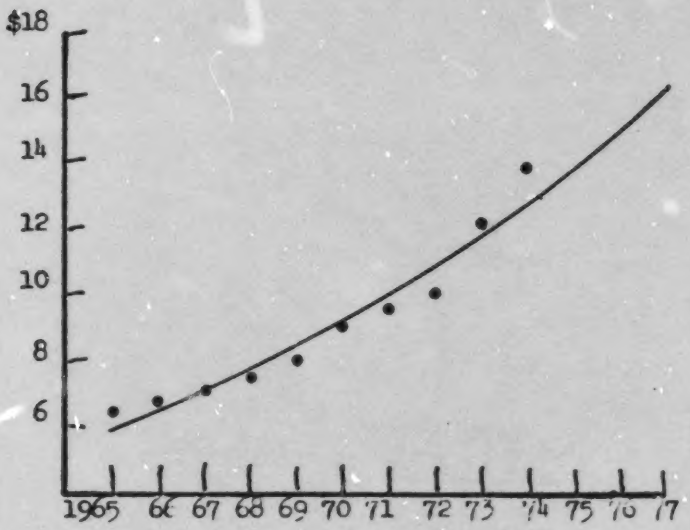
FIGURE 4

SERIALS PRICES - SELECTED SUBJECTS
1965-1974

AGRICULTURE



BUSINESS AND ECONOMICS



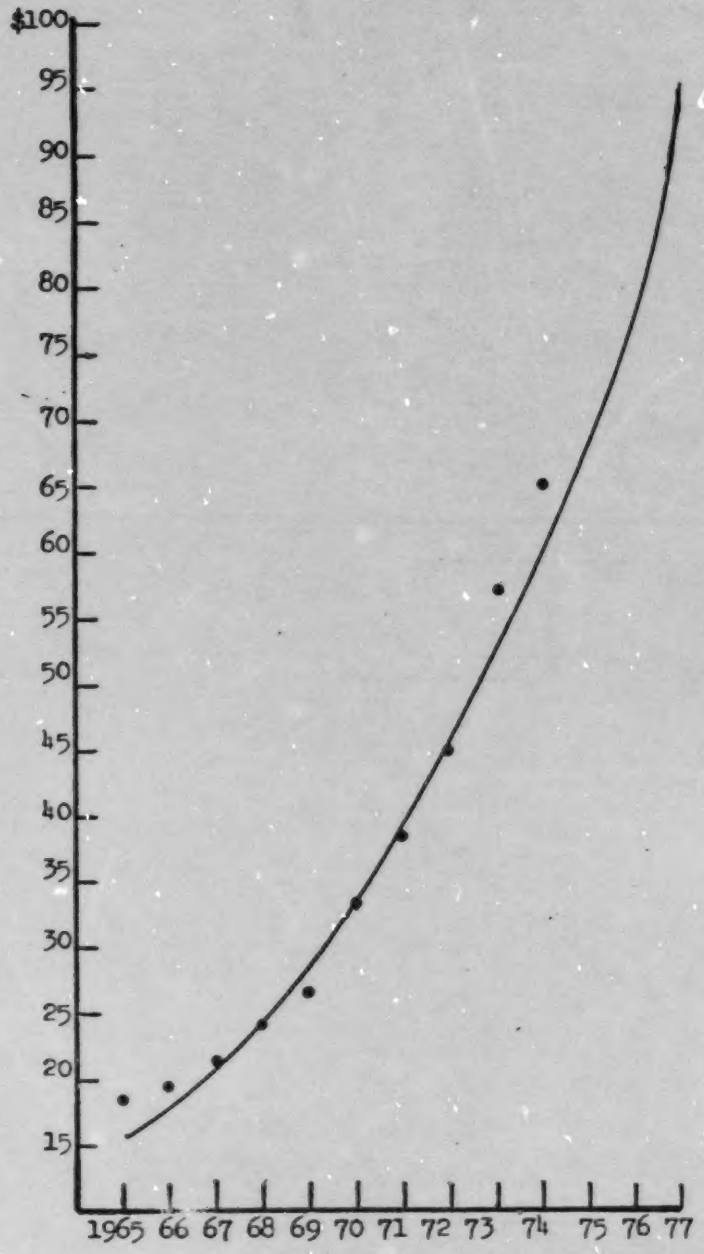
Source: Library Journal

FIGURE 5

SERIALS PRICES - SELECTED SUBJECTS

1965-1974

CHEMISTRY AND PHYSICS



18

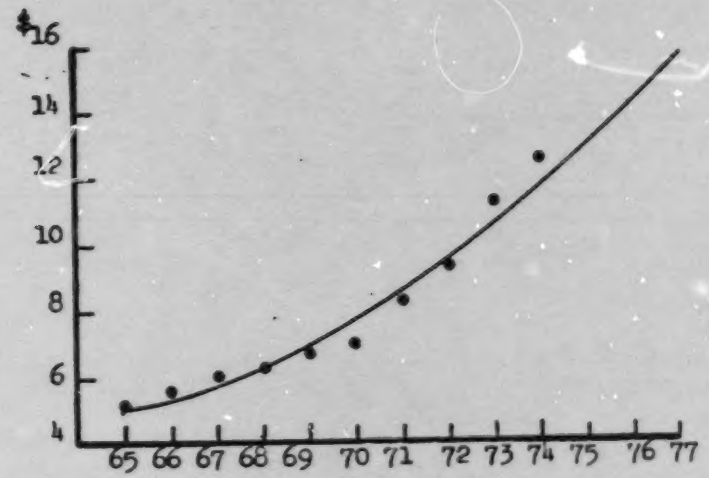
Source: Library Journal

FIGURE 6

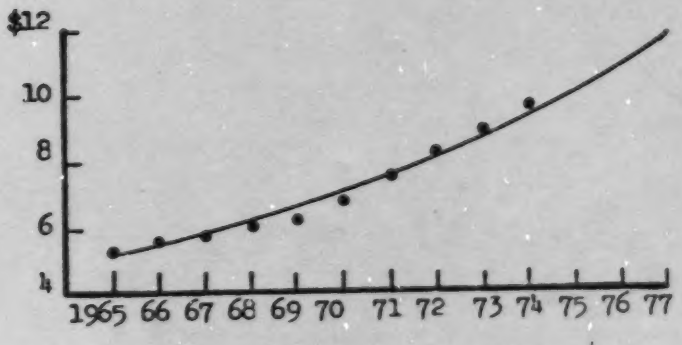
SERIALS PRICES - SELECTED SUBJECTS

1965-1974

EDUCATION



HISTORY

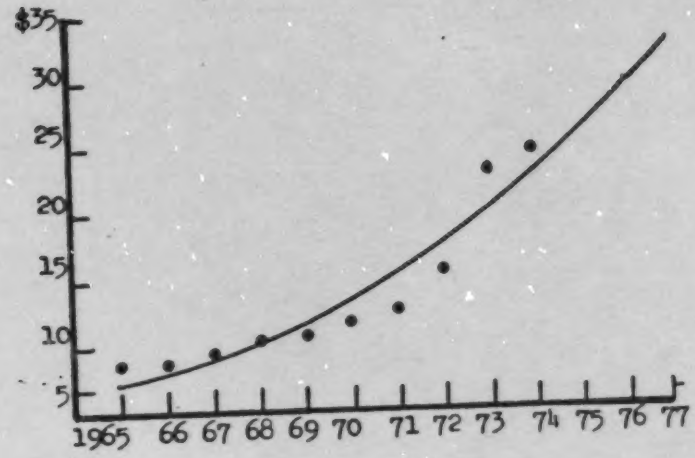


Source: Library Journal

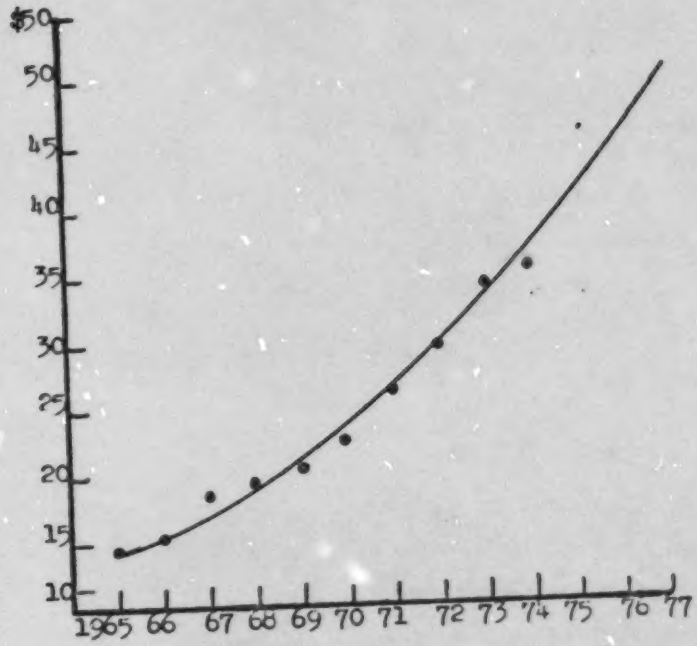
FIGURE 7

SERIALS PRICES - SELECTED SUBJECTS
1965-1974

ENGINEERING



MEDICINE



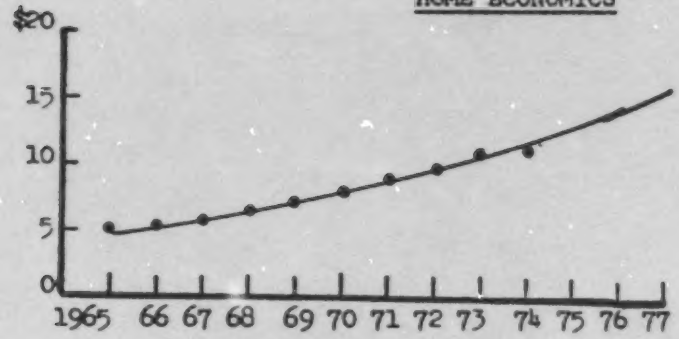
Source: Library Journal

FIGURE 8

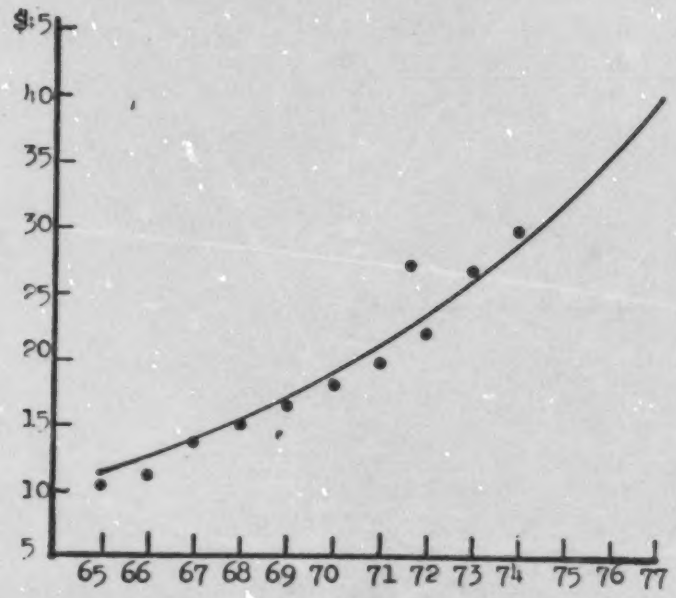
SERIALS PRICES - SELECTED SUBJECTS

1965-1974

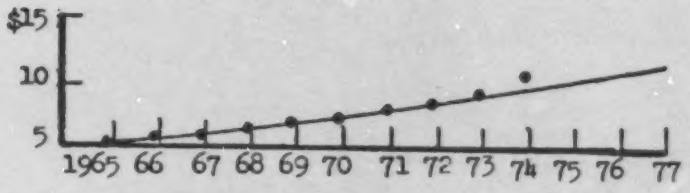
HOME ECONOMICS



MATHEMATICS, BOTANY, GEOLOGY AND GENERAL SCIENCE



POLITICAL SCIENCE



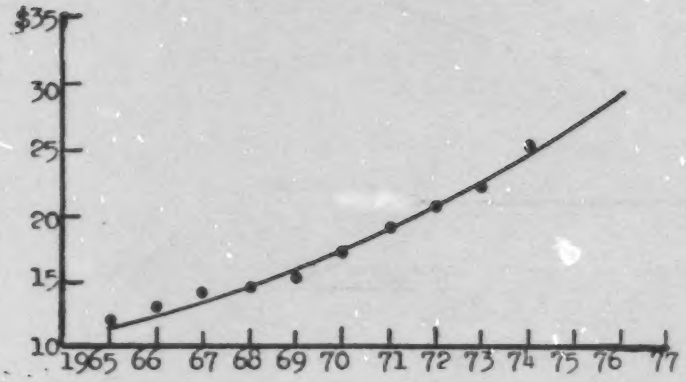
Source: Library Journal

FIGURE 9

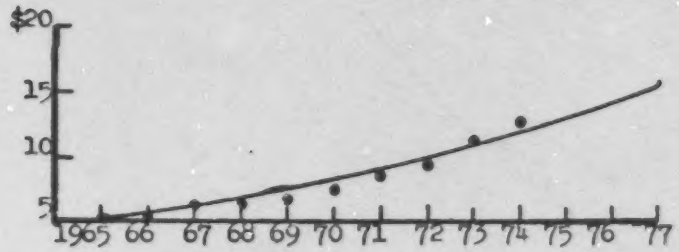
SERIALS PRICES - SELECTED SUBJECTS

1965-1974

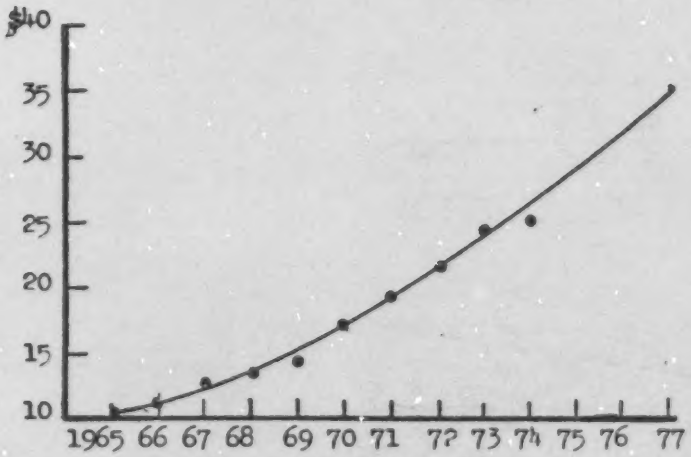
PSYCHOLOGY



SOCIOLOGY AND ANTHROPOLOGY



ZOOLOGY



Source: Library Journal

TABLE 4

PRICE INDICES (1967 = 100)

COMPONENTS OF ACADEMIC LIBRARY BUDGET

1964-1973

Item	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Books, U.S. only (1)	*	*	*	100	128.0	141.8	153.8	159.9	162.1	155.3
Serials, U.S. only (2)	82.8	86.7	92.8	100.0	107.8	116.1	129.8	145.4	165.0	202.0
Professional salaries (3)	83.6	88.2	93.8	100	106.8	114.7	122.4	130.3	136.2	*
Chief librarian's salaries (4)	80.6	86.7	92.8	100.0	107.2	114.6	121.9	128.5	135.1	*
Nonprofessional salaries (5)	90.4	92.9	95.9	100.0	104.9	111.0	118.1	125.5	132.9	139.5
Equipment (6)	97.1	97.4	98.1	100.0	100.7	101.0	103.9	105.4	106.5	*
Office supplies (7)	94.9	95.8	98.6	100.0	100.9	100.3	103.5	104.6	105.9	*
Telephone (8)	102.3	100.8	98.7	100.0	100.0	101.3	102.5	107.5	113.5	116.5
Postage (9)	96.0	96.4	97.2	100.0	113.7	117.0	117.7	138.1	146.6	146.6
Travel (10)	90.1	91.9	95.2	100.0	104.6	112.7	128.5	137.7	143.4	144.8

(1) Source: Richard Abel and Co. Inc. 1973 Book Prices

(2) Source: Library Journal

(3) Source: D. Kent Halstead, Statewide Planning in Higher Education, U.S. Office of Education, 1974.p. 742 Halstead's data were derived from median annual salaries for all ranks of faculty. Source of original data: U.S. Office of Education, Digest of Educational Statistics, 1973.

(4) Source: U.S. Office of Education, Digest of Education Statistics, 1973. Data for 1965, 1967, 1969 1971 are interpolations.

(5) U.S. Bureau of Labor Statistics, Handbook of Labor Statistics, 1974.

* not available

(6) U.S. Bureau of Labor Statistics, Whoesale Price Index for office equipment such as typewriters, calculators, duplicating machines, etc.

(7) Halstead op. cit. Halstead combined wholesale prices for office supplies (carbon paper, file folders, index cards, etc.) with the wholesale price for writing paper. These averages were weighted 80 percent and 20 percent respectively

(8) Consumer Price Index

(9) Ibid.

(10) Ibid.

Data related to nonprofessional wages for library workers are not readily available. A general indication of the trend of clerical wages can be obtained from the index of average weekly earnings of office workers in metropolitan areas. This index is presented in Table 4.

Other budget items

While materials, salaries and wages account for the lion's share of the library budget, price trends in other items need to be taken into account in budget planning. These items include; travel, telephone, postage, equipment and office supplies. Index numbers for these items are shown in Table 4.

Summary

It is clear from examining the price trends of materials and other components of the academic library budget that further price increases can be expected. Pressure for wage and salary increases can be expected because academic salaries generally have not increased as rapidly as the cost of living.

The price indices presented here do not reflect the increasing computerization of library functions. In the long run computerization will tend to reduce the real labor cost involved in technical processing in libraries. While labor costs may not be reduced significantly with regard to customer services, the introduction of computerized circulation systems and on-line data bases should result in improved service and more effective utilization of libraries.

APPENDIX

TABLE 1

BOOK PRICES - SELECTED SUBJECTS

1964-1974

Subject	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Agriculture	$ 7.69	$ 8.04	$ 8.37	$ 8.50	$10.23	$ 9.37	$10.42	$13.64	$10.94	$11.79	$13.21
Business	9.74	9.68	9.47	9.77	10.00	10.47	12.45	12.60	12.45	13.23	14.97
Education	5.50	5.79	5.61	5.61	6.22	6.99	10.75	7.81	10.26	9.67	10.33
History	7.73	8.83	8.56	8.21	9.03	10.64	14.75	12.97	10.92	15.56	15.69
Medicine	11.22	11.88	12.37	12.78	12.55	13.89	18.05	17.58	16.19	15.92	18.92
Science	10.99	12.13	11.72	12.15	11.90	11.96	14.95	15.94	16.05	17.34	20.83
Technology	11.02	12.30	12.51	12.86	12.93	13.37	14.91	15.28	16.11	15.38	17.74

Sources: Bowker Annual and Publishers Weekly

APPENDIX

TABLE 2

SERIALS PRICES - SELECTED SUBJECTS

1965-1974

Subject	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Agriculture	$ 3.83	$ 4.11	$ 4.34	$ 4.74	$ 4.97	$ 5.17	$ 5.74	$ 6.35	$ 7.21	$ 8.12
Business and Economics	6.39	6.89	7.09	7.45	8.07	9.03	9.72	9.95	12.25	13.90
Chemistry and Physics	18.42	19.73	22.35	24.26	26.60	33.45	38.31	45.46	56.61	65.47
Education	5.14	5.58	5.97	6.26	6.79	7.09	8.25	9.51	11.34	12.64
Engineering	7.70	8.19	9.04	10.02	10.98	12.07	13.28	16.04	23.37	24.38
History	5.30	5.53	5.74	6.03	6.34	6.90	7.40	8.25	8.95	9.57
Home Economics	5.37	5.67	6.05	6.48	6.84	7.56	7.94	10.25	12.21	12.31
Mathematics, Botany, Geology and General Science	10.96	12.29	13.72	15.42	16.71	18.11	20.06	22.63	26.99	30.27
Medicine	14.02	15.53	17.97	19.42	20.77	23.44	27.00	29.59	33.60	36.31
Political Science	5.57	5.84	5.86	6.14	6.53	6.72	7.23	8.47	9.69	10.79
Psychology	11.85	12.67	13.82	14.33	15.40	17.12	18.70	20.98	23.17	25.79
Sociology and Anthropology	5.26	5.48	5.86	6.09	6.38	7.31	7.92	9.12	11.28	13.03
Zoology	10.31	10.96	12.53	13.49	14.18	16.86	19.29	22.39	24.07	24.78

Source: Library Journal

FORECASTING

PROGRAM ANALYSIS AND PLANNING FOR A PROJECT TO COMPLETE CURRENT LIBRARY BACKLOGS IN A FIVE YEAR PERIOD UTILIZING THE INCOLSA/OCLC CATALOGING SYSTEM

Robert J. Havlik
Assistant Director for Technical Services
University of Notre Dame Memorial Library

I. Program Mission

The mission of this program is to organize, search and process the current library backlogs accumulated since the opening of the Memorial Library in 1963, which have been caused by lack of staff, materials and funds. Such a program is necessary to enable the students, faculty and research staff to best utilize the large number of uncataloged or partially processed materials now laying dormant or only partially utilized in which we have already made a substantial investment. The program will utilize the new equipment and procedures developed in our library with the introduction of the OCLC/INCOLSA system so that these materials can be made available at a cost substantially lower than using previous manual methods.

II. Program Goals

The Program Goals include the following:

1. Process current acquisitions backlogs including books and serials so that materials urgently needed and requested can be processed promptly and get into the hands of the requester without delay.
2. Search, catalog and eliminate the backlog of unrestricted gifts and purchases of books and serials now unprocessed so that these resources, which have already involved a substantial investment by the library and the university, might be fully utilized by the general library community. Included are the W. B. Stevens Collection, the Library of the Center for Applied Research in the Apostolate (CARA) and other numerous smaller

collections temporarily stored in the Department of Rare Books and Special Collections.

3. Search and catalog all donor restricted books and serials now stored in the Department of Rare Books and Special Collections so that they may be more fully utilized by University Scholars.
4. Re-organize and re-process books and serials in various collections or locations which need to be moved, re-grouped or preserved to better meet the current needs of our university students.
5. Search, catalog and prepare for use and/or display the increasing acquisitions of non-book materials purchased or donated to the library for use of the students and research. Included are public documents, manuscripts, microforms, sound recordings, coins and medals.

See the Program Goal tables for the number of items involved.

III. Program Objectives

The objective of this program is to accomplish the processing of the books and periodicals as identified in the Program Goals within a five year period, including our anticipated current acquisitions. See the Program Objectives table for a summary.

IV. Program Need

The program objective is to complete the project within 5 years and the Program Need Indicators table identifies and analyzes specific target areas and the dimensions of the target areas. It is assumed that the current acquisitions and gifts will increase by approximately 4% per year and the other program goals will remain the same. At this stage it is also assumed that the statistical output over the five year period would be approximately equal each year. In the final analysis this may not be true, however, since some types of items can be processed at a lesser cost

than others and the primary control is the amount of funds and subsequently people available. It must be noted at this point that it is not yet the policy for the Cataloging Department to process all documents, microforms or sound records. Until this policy is resolved and all such items are in MARC format in OCLC and can be utilized by Notre Dame these figures are not included. In the same manner the project for the College Library has been omitted until a policy is decided upon.

II. Program Goal

1. Current Acquisitions: Books and Serials FY 1977/78

Collection Name	#Volumes	%Duplicates	#Titles	Retention Rate	Titles to be added
Current Purchase	12,000	0%	11,728	100%	11,728
Current Gifts	5,903	10%	5,366	50%	2,683
Current Documents	1,200	0%	1,200	100%	1,200
Current Microtext					
a) Microfilm (reels)	3,000	0%	3,000	100%	3,000
b) Microcards	(none)	0%	-0-	-0-	-0-
c) Microfiche	3,000	0%	3,000	100%	3,000
Current Sound Recordings	600	0%	600	100%	600
	25,703	.97	24,894	.89	22,211

II. Program Goal

2. Present Cataloging Backlog
Books and Serials, Unrestricted

Collection Name	Number of Volumes	%Serials	Number of Titles	Retention Rate	Titles Added	Est. % in OCLC	Remarks
Wm. Bacon Stevens Collection	23,200	15%	19,720	54%	10,649	75%	Now 20% complete
CARA Monographs	3,000	0%	3,000	46%	1,380	50%	25% LC/ 25% adaptable
16th, 17th Century Books	321	0%	321	100%	321	0%	
Gaelic Books	84	0%	84	100%	84	0%	
Sports & Games							
Monographs	1,250	0%	1,250	60%	750		
Serials	913	100%	76	100%	76		
McCormack Gift (Rarebooks Ref.)	225	2%	100	90%	90		
Trohan Gift	300	0%	250	95%	285		
Conley Gift	375	0%	325	100%	325		
Subtotal	29,668		25,126		13,960		
Jack Level Gift	100	0%	90	10%	9		
Caparo Gift	350	5%	275	100%	275		
Roach Gift	25	0%	15	100%	15		
Gould Gift	50	0%	50	100%	50		
Craven Gift	500	75%	150	100%	150		
Walshe Gift	125	0%	125	100%	125		
Misc. Oversize	350	0%	275	100%	275		
Misc. General	2,581	10%	2,323	100%	2,323		
Lang (vault)	114	0%	110	100%	110		
Subtotal	4,195		3,413		3,332		
Unrestricted Total	33,863		28,539		17,292		

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II. Program Goal

3. Present Cataloging Backlog:
Books & Serials, Donor Restricted

Collection Name	#Volumes	%Serials	#Titles	Retention Rate	Titles Added
Ford	3,000	16%	2,950	100%	2,950
Denissoff	600	0%	500	100%	500
Olson	2,000	6%	1,950	100%	1,950
J. B. Shaw	12,000	8%	10,000	100%	10,000
Gore	500	20%	375	100%	375
Total	18,100	12.84%	15,775	100%	15,775

II. Program Goal

4. Remedial Cataloging Backlog
Books & Serials

Collection Name	#Volumes	%Serials	#Titles	Retention Rate	Titles Added
Thomas Aquinas	586	0%	530	100%	530
Law, Class K.	1,470	0%	1,470	100%	1,470
Reference	5,000	0%	5,000	100%	5,000
Engineering:					
Books	5,928	0%	5,928	100%	5,928
Serials	11,682	100%	518	100%	518
Preservation Project	1,214	0%	1,214	100%	1,214
Manuscripts					
Med. & Renaissance	58	0%	58	100%	58
Modern	1,800	0%	1,800	100%	1,800
Total	27,738	42.1%	16,518	100%	16,518

II. Program Goal

5. Present Cataloging Backlog: Non-Book Materials

Collection Name	#Volumes	%Serials	Titles	Retention Rate	Titles Added	Remarks
Documents, House Un-Amer. Activities	700	0%	400	100%	400	
Documents, O'Melia Gift	5,000	50%	3,000	100%	3,000	Donor restricted
Manuscripts: Misc.	700	0%	700	100%	700	
Med.	7	0%	7	100%	7	
Numismatics: Coins	5,000	—	100	100%		
Medals	500	—	500	100%	500	
Books	25	0%	25	100%	25	
Serials	35	100%	35	100%	35	
Newspapers & Broadsides	3,000	0%	3,000	100%	3,000	
Microtext:						
Microfilm: Denisoff	1,000	0%	15,000	100%	15,000	
(reels) Newspapers	200	100%	25	100%	25	
Microcard	27,000	0%	20,000	100%	20,000	
Microfiche	(none)					
Sound Recordings	500	—	500	100%	500	
Total	43,667	0%	44,228	100%	44,228	

III. Program Objectives to be Accomplished: Current Acquisitions Plus Backlog in 5 year Period

Title of Object	#Items	%Serials	#Titles	Retention Rate	Titles Added
Current Acquisitions	25,703	97%	24,894	89%	22,211
Unrestricted Backlog	33,863	15.7%	28,539	60.6%	17,292
Restricted Backlog	18,100	12.8%	15,775	100%	15,775
Remedial Cataloging	27,738	14.4%	16,518	100%	16,518
Non-Book Materials	43,667	0%	44,228	100%	44,228
Total	149,071		129,954		116,024

IV. Program Need Indicators

	FY 77-78	FY 78-79	FY 79-80	FY 80-81	FY 81-82	Total
1. Current Acquisitions	11,728	12,197	12,685	13,192	13,720	63,522
1a. New Gifts 4% increase	2,683	2,790	2,902	3,018	3,139	14,532
2. Unrestricted Backlog	17,292	-0-	-0-	-0-	-0-	17,292
3. Restricted Backlog	1,470	14,305	-0-	-0-	-0-	15,775
4. Remedial Cataloging	-0-	4,454	12,061	-0-	-0-	16,515
5. Non-Book Cataloging	-0-	-0-	6,701	18,762	18,762	44,225
Totals	33,173	33,746	34,349	34,972	35,621	171,861

V. Program Priorities

The program priorities are the prime target areas for this project. They will be the base for the program emphasis, funding estimates and output estimates. They are necessarily subjective.

Current Acquisitions

This is the area of most importance. Funding must not only continue but must increase to cut any delay in processing the immediate needs of faculty as reflected by their requests. While we have been able to keep up with the processing of new requests for monographs, we have been unable to process new serials received on standing orders. In addition, parts of series frequently are not identified when a specific request is received and an unintentional duplicate is ordered in error.

Unrestricted Backlog

The two largest groups of materials in this category are the W.B. Stevens Collection and the Library of the Center for Applied Research in the Apostolate (CARA). Because of the pressing need by the Department of Religion to use the Stevens Collection we have had to arrange for separate shelving and charging of these items and rely upon the very inadequate and incomplete catalog which came with the collection. Also on occasion we have purchased duplicate materials which are already in the Stevens Collection due to our inability to make an adequate search of their catalog, as well as losing materials from the shelves into carrels due to inadequate control of the materials.

The CARA Collection is composed mostly of African materials for which there is a growing need. At the present time the material is stored in the Gifts and Sales area unprocessed and un-indexed.

Restricted Backlog

The restricted backlog is the smallest group of materials requiring processing in our total backlog picture. It is composed of five major collections; Ford, Denessoff, Olsen, J. B. Shaw and Gore. The collections are wide ranging from trade books to rare books and from Catholic authors to Orchids. Much of this material is displayed for general use by university scholars but standard, more widely usable bibliographic records makes the depth of bibliographic identification of this material more detailed than for other materials thus extra care must be observed in cataloging of these materials.

Remedial Cataloging

The University of Notre Dame Libraries are nearly 140 years old. Changes in processing methods, use of materials, location of materials, need for restoration and preservation and numerous accumulations of errors over the years has caused a numerical backlog larger than any other. Because of other pressures this work has had a low priority. The pressure of student needs and accrediation standards have forced a greater need for these jobs to be done as quickly as possible. The most pressing is the need for reorganization and re-construction of the College Library collection. This collection is currently the object of much of the libraries' criticism. Re-evaluation of the College Library needs and shifting of collections will require the physical handling of nearly 80,000 volumes for which holdings and location records will have to be changed.

Over the years many of our College and Departmental Libraries have outgrown their space and temporary storage arrangements have been made without making complete record changes. For example, there are nearly 6,000 books and serials from the Engineering Library alone which need to be transferred to the Memorial Library to make space in this critically crowded facility. Another case in

point is the change in Library classification of law books. The Memorial Library has over 1,500 law books not classified under "K" but classified under other disciplines such as Business, Economics and History. It has only been in the past few years that the Library of Congress has settled on a standard classification system for this material and our temporary cataloging must be corrected to meet the standard.

The reference collection is another area which needs constant upgrading and weeding. It is estimated that at least 5,000 volumes need to be transferred out of or into the reference area to keep up the quality of the collection.

Non-Book Materials

As libraries broadened their services and new information transfer techniques develop the library has been acquiring increasing amounts of non-book materials for its collections. These include documents, manuscripts, newspapers, microtext materials, sound recording and numismatic materials. Since the library is geared physically and in processing methods to handle books and serials, non-book materials have been neglected. With the advent of machine-readable techniques and standards, standardized bibliographic records are now available for some of this material. The number one priority in this area is the catalog of the Audio Learning Center. The catalog is a non-standard, incomplete mixture of audio recordings, and music books not available through the public catalog. Beginning in January 1978 data on music, sound recordings and music books with standardized printed cards should be available through OCLC. The entire Audio Center Collection should be reprocessed to produce a new usable catalog in the Center which is reflected and coordinated with our public catalog. A similar situation exists with a large portion of our microtext collection. After the purchase of new sets of materials in microform and the fact that much of this material is not yet listed in the main card catalog, on occasion we purchased or borrowed, at great expense, hard copies of materials already available in microforms.

It is hoped that through the use of OCLC/INCOLSA much of this material can be identified in its non-book form and processed in such a way that the cards and data are compatable with our public catalog.

VI. Program Costing and Funding

The key to program costing and funding is a knowledge of units of program output and the unit costs of such output. In our 1975 study, made in preparation for our automation program, projected costs were made for the new system. These estimates have been remarkably accurate to date. The unit costs as listed in the accompanying table are the costs used to project the funding needed. Different categories of materials, however, use different combinations of processing as explained below.

1. Cost for Processing of Current Acquisitions

Current acquisitions require all steps for pre-order searching/order except in the case of Gifts search, i.e., Acquisitions/Receiving; Cataloging except local adjustments; OCLC Card Production; Book Preparations; and Catalog Edit. Using the program need indicator statistics for current acquisitions and current experience with Notre Dame ordering patterns the estimated costing data were derived.

2. Cost for Processing of Current Gift Materials

While current gift materials do not involve the cost of the acquisitions functions the books must be searched in the card catalog to see if they are duplicates. If they are duplicates the shelf copy must be found and compared to the gift copy at hand. If the shelf copy is missing or in bad condition, the gift copy is substituted. The cost of search for the gift copy as well as the local adjustment is included in the cost estimates.

3. Cost to Process the Unrestricted Backlog

The procedures to process the unrestricted backlog are the same as for processing unrestricted current gifts so the costs are the same.

4. Processing the Donor Restricted Backlog

It is the requirement of Donor Restricted materials that all items must be retained regardless of duplication in our general collections. Because of our method of recording added copies each item must be checked in the card catalog. If a duplicate is found it must be processed as an added copy. Estimate costs are based upon the above restrictions.

5. Processing of the Remedial Cataloging Backlog

The Remedial Cataloging backlog as indicated in the original backlog survey actually consisted of transfer work or at the most assignment of new classifications numbers. Transfer work consists of finding all cards, adjusting each card to indicate the new location or classification and refiling the cards. Books are not located by the Circulation Department but by Catalog Department students, who also do the relabeling. These costs were used to estimate the cost of this operation.

6. Processing of Non-book Materials

There is no basic cost data on the processing of non-book materials. There also has been no firm decision as to the degree of bibliographic record keeping needed for each type of item listed. For the sake of this exercise, it will be assumed that the cataloging of material is not shared by OCLC and that all titles must be originally cataloged. Most of these materials, except for the Microcards, are unique so the card catalog need not be searched before processing so this cost is not included. Also, there are no book preparation costs for Microcards.

A summary of the costs for each category of five fiscal years follows:

VI. Program Costing and Funding

Labor and Materials Cost for Acquisitions and Cataloging of Library Materials

Automation Mode — Projection to 1977/78

	1977-78 Cost/Unit
Pre-Order/Order	
Receipt of ORF's	0.338
Pre-order search in Cataloging	0.849
Cost to search OCLC (labor)	0.716
Cost to verify residue - manually	2.797
Gift search/shelf-catalog	2.932
Acquisitions/Receiving	
Acq. prep. - order	1.105
Cost to file/on - order file	0.229
Assembly of data, pre-catalog	0.399
Sorting and routing	0.092
Cataloging	
Cataloging Operations	
OCLC-hit catalog (labor)	0.912
OCLC-hit catalog, FTU	1.024
Cost, Polaroid film	0.3825
NUC photo (labor)	0.453
NUC 2nd search (labor)	0.389
OCLC original cat. (labor)	7.748
OCLC original cat. (data base)	0.572
Local adjustments	1.96
Card Production	
OCLC card service	0.034
Cross-ref. (labor/material)	0.148
Book Preparations	
Monographs (labor)	0.174
Serials, bound vols. (labor)	0.174
Other (labor)	0.174
Catalog Edit	
Filing, editing, etc.	0.141

VI. Program Costing and Funding

Current Acquisition Costs Based on Program Need Indicators

	FY 77-78	FY 78-79	FY 79-80	FY 80-81	FY 81-82
			Monographs		
1.	$110,847.91	$123,247.86	$136,925.32	$152,098.35	$169,172.30
			Current Gift Materials		
2.	$26,054.15	$28,933.71	$32,149.79	$35,715.75	$39,741.83
			Unrestricted Backlog		
3a.	$105,576.26	-0-	-0-	-0-	-0-
			CARA Collection		
3b.	$17,727.45	-0-	-0-	-0-	-0-
			Other Collections		
3c.	$66,479.94	-0-	-0-	-0-	-0-
			Restricted Backlog		
4.	9,316.48	$96,936.12	-0-	-0-	-0-
			Remedial Cataloging		
5.	-0-	$21,069.97	$49,738.66	-0-	-0-
			Non-Book Materials		
			Microcards		
6a.	-0-	-0-	$29,426.07	$62,408.65	-0-
			Other		
6b.	-0-	-0-	-0-	$73,403.67	$259,103.20

VI. Program Costing and Funding

Cost Summary by Years Based Upon Program Need Indicators

	FY 77-78	FY 78-79	FY 79-80	FY 80-81	FY 81-82	Total
Current Acq.	136,902	152,182	169,075	187,813	208,914	854,886
Backlog	199,094	118,006	79,165	135,813	259,103	791,291
Total	335,996	270,188	248,240	323,627	468,017	1,646,068

VII. Estimates of Future Output and Funding

1. The following table is based upon anticipated acquisitions input and anticipated work output using two OCLC terminals and a 4% increase in productivity per year in the Division. It is also assumed that only monographs in the unrestricted and restricted backlogs would be dealt with as part of the regular work flow. Since the remedial cataloging and non-book materials cannot be handled on OCLC at this time, their operations will be considered separately.

Program Need Indicator Vs. Anticipated Accomplishments on OCLC

	FY 77-78	FY 78-79	FY 79-80	FY 80-81	FY 81-82	Total
Anticipated Current Acq.	11,728	12,197	12,685	13,192	13,720	63,522
Anticipated New Gifts	2,683	2,790	2,902	3,018	3,139	14,532
Total anticipated input	14,411	14,987	15,587	16,210	16,859	78,054
Anticipated work output based on 2 terminals & 4% increase in productivity	19,320	20,093	20,897	22,360	23,925	106,595
Anticipated number of backlog titles which could be adsorbed (difference)	4,909	5,106	5,310	6,150	7,066	28,541

An analysis of the size of our restricted and unrestricted backlog vs. the anticipated number of backlog titles which we could adsorb shows that either of these could be adsorbed in 4 years with a substantial dent in the remaining collection after the 3rd year. Since processing of the unrestricted backlog has a higher priority in our Program Goals the best procedure would be as follows with both backlogs caught up by the 6th year.

Number of Volumes of Unrestricted and Restricted Backlogs which could be Handled Per Year in Normal Operations

	FY 77-78	FY 78-79	FY 79-80	FY 80-81	FY 81-82	FY 82-83	Total
Unrestricted Backlog	4,909	5,106	5,310	1,967	0	0	17,292
Restricted Backlog	0	0	0	4,183	7,066	4,526	15,775
Total	4,909	5,106	5,310	6,150	7,066	4,526	33,067

2. The following table of estimated funding is based upon reasonable budget requests of 7% for labor, 8% for OCLC costs and 4% for supplies over the next five years. The data is based upon the Cost Summary by Years and is based upon the Program Need Indicators and our current budget.

Difference in Estimated Budget Request and Funds Needed to Complete Backlog

Budget	FY 77/78	FY 78/79	FY 79/80	FY 80/81	FY 81/82	Total
Labor + 7%	343,844	380,841	407,500	436,025	466,546	2,034,756
Computer + 8%	26,820	28,966	31,283	33,785	36,488	157,342
Supplies + 4%	9,400	9,776	10,167	10,574	10,996	50,913
Est. Total Budget Requests	380,064	419,583	448,950	480,384	514,030	2,243,011
Est. Total Cost to Complete all Backlogs	335,996	270,188	248,240	323,627	468,017	1,646,068

Analysis os this table shows that if the variation in time to process different categories of materials was disregarded, i.e., differences between manual and automated processing and use of a shared data base vs. original cataloging a reasonable annual requests for budget increases might allow funds to complete all the backlog work within five years if there is no dramatic increase in the rate of new purchases or purchase of any new restricted or unrestricted collections.

3. If there is any great increase in current acquisitions or the purchase of additional restricted or unrestricted collections during this period the existing staff could not handle the existing work load with two terminals let alone make any headway on current or new backlogs. Each category of backlog would have to be considered as a separate project and a series of University or outside grants would have to be applied for. A summary of the cost for each project follows:

Project Costs by Type of Backlog

Unrestricted Backlog	$105,576
Cara Collection	$ 17,727
Other misc. collections	$ 66,480
Restricted Backlog	$106,252
Remedial Cataloging	$ 70,808
Non-Book Materials	
Micro cards	$ 91,834
Other materials (not broken down)	$332,507

VIII. Program Responsiveness and Program Alternatives

Current experience and analysis indicates a plan and several alternatives to meet as many objectives as we can in as short a time as possible.

1. We must increase our current productivity within our current budget, people, and time available on OCLC to reduce as much of the backlog as we can in the normal course of operations. Additional terminal time will help.
2. We must realign our priorities so that any supplemental funding we ask for is reasonable and is allocated in such a way throughout the entire five years period so that the initial funding will be used to accomplish the more expensive processes first (i.e., original cataloging of non-OCLC items) and least costly processing later (i.e., transfers, etc.) in anticipation of further inflation.
3. We must also prepare cost packages for various projects so that if we ask for only limited amounts of funds these can be directly tied with specific projects.

In truth these are syllogisms for the success of any library project of this type and size but the step by step analysis of the problem as presented in this exercise will serve as a sound take off point for any administrative decisions or resolutions that will be required in the future.

Postscript

This exercise was undertaken late in Fiscal Year 1976/77. Rapidly changing conditions in our library prevented the execution of any planned senario. Subsequent events, however, proved a few of our assumptions.

The first unforeseen event was a dramatic increase in the number of orders received. This was followed by the purchase of a third OCLC terminal to aid the processing of monographs. By increased productivity our cataloging output jumped from 13,760 titles in FY 1975-76 to 19,669 titles in FY 1976-77 to 21,280 in FY 1977-78.

While we did not make much progress on our large restricted or unrestricted collections our current purchases are now being processed without delay. Several of our smaller backloged collections were adsorbed, however, to reduce faculty pressures and marshal our major projects for a major proposal.

The original report did not reduce the spate of new collections of restricted and unrestricted materials acquired by the University Administration. In the past two years our burden has been increased by the acquisition of two collections of 30,000 and 13,000 volumes. The later collection, however, was given with an accompanying grant of money for processing. The future is not all grey.

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CAMPUS MEMO

University of Southern California

TO John Curry, Director of Management Planning

FROM Linda Crismond, Assistant University Librarian

DATE September 26, 1978

SUBJECT Five-Year Forecast, 1978/79 - 1982/83

The Library five-year forecast has several underlying assumptions:

1. The library collections, staff, and service levels will remain constant.
2. The automation of the circulation system will begin in the 1978-79 year and will continue throughout the five-year period. At the end of five years, all libraries should be fully operational.
3. The library will close its card catalog in January, 1981, and begin an on-line catalog.
4. A conversion of library bibliographic records, which began in November, 1977, will continue with an increased effort beginning in the 1978-79 year. This conversion supports both the circulation and catalog systems and at the end of the fifth year will have converted 766,800 records.
5. Storage space will be needed by 1980/81.
6. Two more book security systems are needed to complete the library's security needs.

Each of these assumptions will be addressed with some details of how they translated into forecast dollars. In the process, it is hoped that the questions you posed in your memos will be answered.

INFLATION FACTORS ON A FIXED 1978-79 BASE

Equipment. The equipment base represents the Library book and serials budget. In spite of the increased CPI projections for 1977-78 and 1978-79, a 15% increase is still being projected. It is the library' experience that inflation on U.S. books and serials slowed in 1977 and 1978 but these will be counterbalanced by increased paper and production costs in the last half of 1978 and 1979. There are daily examples of these increases such as the announcement in the LA Times on September 24, 1978 of increases in its newsstand rates due to "increased operating costs, most notably newsprint."

One factor which could make this projection on the low side is the effects of the devaluation of the dollar on the library's foreign purchases. The University has strong programs in German, Spanish, French, and Italian and is expanding in the Middle East and East Asian areas. In order to respond to these programs, the Library is increasing the number of foreign titles purchased. A mini-study is being undertaken now in the Acquisitions Department on the effects of devaluation which will provide data for the 1979-80 budget request.

The Library is ranked 38th in the latest Association of Research Libraries (ARL) statistics (1976-77) in size of collection. But the statistics also show that the Library is adding volumes at the 48th rank

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This would indicate, that given a period of years, the Library may slowly fall in overall rank. This is not certain, however, since some other ARL libraries are not receiving even inflationary support and only a few are receiving large quality enhancement funds to build their collections.

Supplies. The supplies budget base is being inflated by 10%. Bindery costs continue to be high; in March, 1978, the binder announced the predicted 10% increase. Most of the general supply needs are paper or petroleum products. The assumption is that these will continue to increase at a higher rate than the CPI. Stephen Crossland, Director of the Bookstore, confirms the possibility of double digit inflation for paper in his memo of September 1, 1978 to all departments.

Salaries, Wages, Travel. Salaries and travel are being inflated by the standard increase. The wages base is inflated by the known minimum wage increases through 1980/81 and by 6.5% for the last two years.

AUTOMATED CIRCULATION SYSTEM

The automated circulation system is planned to be installed in the 1978-79 year. A "bare bones" system is presently listed as an obligation against this year's reserve. Since the status of the reserve is always uncertain and since Dave Shawaker is pessimistic as to its realization, it is being projected that the Library will support half of the circulation cost by special funding. Incidently, the price has increased 10% since the 1978-79 budget was prepared.

The system is projected to be phased in over the five year period. In year one, 1978-79, the basic minicomputer with minimal storage will be installed. Year two adds more storage and terminals necessary to make Doheny Library and one branch library operational. Year three adds two more branches and more storage. Years four and five add three more branches each and the fifth year completes the system storage requirements. All equipment and maintenance costs are inflated at your standard rate with the exception of the additional storage units. It is expected that complete storage costs will go down during the five year period.

The system costs are large. The Library will make every effort through its branch librarians and its soon-to-be-named development officer to contact support groups on the possibility of sponsoring branch terminals and conversion efforts.

AUTOMATED CATALOG SYSTEM

The attached discussion paper presents the reasons why the Library will close its card catalog and outlines a scenario of the form and content of the new catalog. The key factor here is that the Library of Congress will implement a second edition of the Anglo-American Cataloging Rules in January, 1981(note this has been delayed by one year since the position paper was written). These are the standard rules by which the nation's libraries catalog. The revised edition will make between 17% and 45% (probably 25-30%) of the new catalog cards incompatible with the old cards. If the library were to try to incorporate the new cards into the old catalog, it would have to pull and recatalog approximately one million old cards. If it was decided to reject the new cataloging

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rules and continue with the past, the Library would have to triple its professional librarian cataloging staff since it could not rely on the cataloging produced by the Library of Congress and other research libraries. The cost of adding 26 librarians at $16,000 per year each totals $416,000 annually.

The costs begin in 1980-81. At that time, the main catalog in Doheny will be microfilmed. A minicomputer will be installed and 50 terminals of varing levels of sophistication will be spread across all libraries. A back-up system of microfiche will be used. It is expected that the system will use software developed by other libraries. The University of California Libraries published a ten-year plan in July, 1977, in which they gave details of their projected on-line catalog(this is available in the Librarian's office if you wish to see it). Preliminary inquiries indicate that USC should be able to use their software to operate the library catalog.

CONVERSION

The conversion program is intended to support both the circulation and catalog systems. The plan involves keying in a short entry and matching this against a data base to retrieve the full bibliographic record. The full machine-readible bibliographic records created by the Catalog Department will be edited by a vendor to achieve a shortened circulation record.

The majority of the cataloging records will be created using the present OCLC system the machine costs for which are in the supplies base. The majority of the circulation records will be created using the circulation computer. The machine costs in the forecast represent the costs to tie these two together.

It is projected that an OCLC terminal will be purchased next year to be devoted to conversion. A conversion staff of one Librarian II, two library assistant III's and 40 hours of student support time is included in the forecast. It is projected that this staff will be able to convert 766,800 records by the end of the five year period.

STORAGE

The Library has storage problems now, and they will increase in the next five years. The forecast represents moving the approximately 100,000 volumes stored in the first level of Doheny stacks to rented Bekins space and renovating that stack space to accomodate the current growing collection. This latter cost might be more appropriate for the O & M forecast. It was derived from an original estimate by them which was inflated one percent per month from the date the estimate was made.

The long-range storage problems are shared by most large libraries. The University of California Libraries in their planning document which was referred to above project the need to build two storage facilities, one in the North and one in the South. The report specifically mentions USC as a user of the southern facility. The document projects the cost per volume as $1.68 or $168,000 for 100,000 volumes in the shared building. In another calculation it is estimated that 12.5 volumes can fit in one square foot of assignable space. It is estimated that an addition to existing libraries would cost $113 per assignable square foot; if it were a separate facility on campus, it would be $88 per assignable square foot; and if it were off campus, it would be $76 per assignable square foot. If the costs for 100,00 volumes are multiplied for a new

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building off campus, it would cost $608,000. It seems clear from the above that the Library's long-range plans are to support a shared UC facility in the South. The California Library Authority for Systems and Services (CLASS), the California library network, is also supporting the UC plans.

Two other buildings might relieve some of the Library pressures if they are built in the next five years. A proposal has been written to build a new Performing Arts Library which would draw principally from materials now housed in Doheny. The second building would be a rare books library the support for which is part of Marta Feuchtwanger's will. These materials are now being preserved to the best of the Library's present ability in Doheny and various branch libraries.

BOOK SECURITY

The forecast projects the installation of the final two security systems. The Library Science Library would be installed in 1979-80 and the Music Library in 1980-81. The latter system would be removable so that it would be used in the Performing Arts Library when that facility is available.

CONCLUSION

The Library sees increased pressures in the next five years to maintain the same level of service. The thrust of this forecast is in the direction of capital equipment expenditures rather than increased labor costs. Without automated support the Library productivity will most likely decline even if additional staff can be realized. The files such as the card catalog and the books in circulation have become so large and complex that to maintain them manually is very difficult. The capabilities for service which are ridgid in a manual system become flexible in an automated one.

cc: Roy L. Kidman

Stanford University

DATE: September 26, 1977

TO : Task Force on Library Planning for the Future

FROM : William F. Miller
Vice President and Provost

SUBJECT: The Nature of Stanford Library Services: 1980-2000

Dear Colleagues,

First, let me thank each of you for your willingness to serve on the Task Force on Library Planning.

As you know, Stanford, along with other major research universities, faces extraordinary library issues in the coming decades. In a period of abundant resources these concerns could perhaps be solved with reasonable ease according to the best interests of the institution; under the economic conditions that obtain, however, they will certainly cause severe strains for those who rely upon the libraries for teaching and research. These difficulties fall not only upon the library staff, but upon the whole intellectual community.

The basic issues can be briefly summarized. The space problem is the most obvious. Research libraries have generally doubled in size of collections every sixteen years. The increasing world production of scholarly books and serials suggests no diminution in growth rates of needed information unless curbed by economic forces.

The recent pattern of sharply escalating unit costs of materials and the increase in world volume of books and serials have combined to create a serious financial problem for libraries across the country. At Stanford, the Medium Range Forecast shows that library acquisition costs are second only to utilities in expected rate of increase in the coming years -- a rapid cost rise which unabated will have severe consequences on tuition and research costs.

As these problems are addressed, it is reasonable to look toward technological solutions among others and to expect basic and significant changes to come to research libraries in the next decades. Technology which could help with book storage is available. New systems are available to eliminate card catalogs, to store and retrieve materials in national and regional centers, and to deliver information, books and serials to users in new modes. But the adaptation to new developments is likely itself to be expensive.

Cost-reducing and productivity-increasing improvements as do come along will have to be implemented "on line" since libraries, unlike ships, cannot be put in drydock to be outfitted and renewed. Unwise investments in underdeveloped technologies must be avoided, and a high level of service must be maintained throughout a period of experiment and change.

All of these concerns have come together to raise significant questions about the future character and conduct of research libraries, and about their funding. While Stanford libraries continue to grow both in size and in quality, we must explore the problems of the next decade in order to insure the continued excellence of our libraries and to increase the service capabilities at an appropriate cost.

An inquiry into issues of such magnitude demands a degree of disengagement from the press of daily business, time and effort beyond the limits of the existing committees' and library staff duties, and a perspective more representative of the future than of the present. For these reasons, a task force has been formed to advise the President and me on the appropriate steps that might be taken to continue the excellence of Stanford's libraries at an affordable cost. The assignment is expected to require from eighteen to thirty months to complete. No one on the task force has been selected to represent a constituency or a view more narrow than the overall institutional view. While the project is concerned with the quality of library services and their related costs, the problems belong to the University as a whole.

The general charge to the task force is to advise in the development of a practical conceptual model of the Stanford library system suitable in structure and detail for the decades to come. The model must reflect the needs of the users and the capabilities of a professional library staff as well as the size and cost of the components. The quality and meaning of the library to the University must be as apparent in the model as the decision structure and the cost factors.

In creating the conceptual model, the task force will need to incorporate the many complex elements of the library resources at Stanford, including the coordinate libraries, the branch libraries, cooperative arrangements with other institutions, and developing national programs such as a national library automation network and a national periodical resourses center. Any changes in the present structure or services must be phased in under a plan that does not seriously disrupt the traditional use of the resources. If no structural changes are desirable, then new systems or technological devices may need to be incorporated into the existing system. The community will need to understand the motivations behind any changes, the advantages to be gained, and the consequences if no changes were to be achieved. Throughout these considerations costs and income opportunities must be explored.

The tasks for the project are of great magnitude. Stanford is in a position to contribute significantly to national discussion as well as benefit its own future students and faculty. To move in that direction requires planning and deliberation; to be successful requires sensitivity as well as foresight. The conceptual model that can result from the project can provide Stanford and others with the capacity to serve the scholarly community in better ways during the coming decades.

We will be meeting approximately every other week. A schedule of Fall Quarter meeting times and places will be sent to you shortly. Again, my thanks for your willingness to serve.

Best regards,

Bill

William F. Miller

Distribution:
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R. Ward
D. Webb

cc: A. Dallin, Chairman, Committee on Libraries
E. Hutchinson

DATE: September 30, 1977

TO : Bill Miller, David Weber, Susan Horst

FROM : Ray Bacchetti

SUBJECT: Structuring the Work of the Library Task Force

Dear Friends:

In recent conversations we've had and in last year's good preparatory work, some ideas have been hatched that we now need to formulate into a strategy for the first few months of Task Force endeavor. In this memorandum, I'll put up a few suggestions. By the middle of next week, we should have the makings of a plan in place.

First, let's look at topics and their organization into (1) a program to orient the "Force" to the "Task" and (2) a structure to facilitate subsequent work. Last Spring, David suggested these seven topics:

- Publication trends
- Forms of publication
- Collection development
- Collection conservation and preservation
- Bibliographic data base developments nationwide
- Automation networks and telecommunications
- Access means and delivery systems

This division or some variation on it (perhaps some topics could be collapsed into one) has the considerable practical advantage that it allows people here or elsewhere to organize their thoughts more readily than if we asked them to canvass the subject according to novel or more sweeping topical headings (see below). It's disadvantage is that it implies a conceptual structure that grows out of current ways of seeing things, ways which aren't necessarily the best ways to achieve new insights. We want to grab the future by the neck, not the tail. So how do we proceed with practical wisdom while leaving room for imagination and a creative reordering of ideas and alternatives?

While you're thinking about that question, let me write down the four piece conceptual structure I've mentioned to you all. I put this forward as another way of getting an intellectual handhold on an obviously complex, interrelated whole. Perhaps this or some similar

structuring will give us ideas about how later to divide the grand task into manageable sub-tasks that provide latitude for common and uncommon sense.

Manufacture and publishing of materials.

Examine the printed word all the way from the economics of the pulp and paper industries to printing, preservation, alternative forms of publication. Then look at the factors that influence the quantity of published materials. In short, look at price and volume from the ground up, now and in the future.

Technology and organizing library services.

Examine the technological underpinnings and the application of computer and library science to the complex tasks of selection, acquisition, cataloguing, search, retrieval, delivery, etc. Also look at technology and systems from a national and regional perspective as well as from the viewpoint of a single library or small cooperative grouping.

Intraorganizational development.

Examine how one library or campus library system responds to and helps structure the expectations placed on it for service, preservation, archival work, coordination, staff, professional growth and job satisfaction, economy, etc.

Interorganizational development.

Examine the ways in which it makes sense to conceive of one library as part of some larger organic grouping: library cooperative arrangements, regional depositories, networks, third party arrangements (e.g., RLG), influences of sharing on the economics of publishing, etc.

Let me turn now to the second organizational problem, getting started and keeping moving for a few months. David and I, in talking this over, thought about two models.

Model One: Move directly through the list of topics chosen for orientation sessions, meeting at, say, two-week intervals starting as soon as speakers can be lined up. When those meetings are concluded, appraise what we've learned and then break up into subgroups according to some practical yet promising re-ordering of our subject matter. As is implied above, we might structure orientation by the seven headings and subsequent work by the later fourfold grouping. Each subgroup would need some assigned staff support, and each would use the Task Force from time to time as the sounding board for its questions, observations, and proposals.

Model Two: Take longer on orientation by following each one or two lectures (or, better, lessons) with a meeting just of the Task Force for a discussion of what was learned, what left out, what puzzles or doubts or inquiries remain, etc. This approach would take us through the better part of winter quarter. Then we'd need to take stock of the best means for structuring research, probings, the development and exploration of ideas, etc.

In both models, meeting sequences would be interrupted when some important or informative matter was available for review, e.g., a look at the library budget, seen as a patterning instrument; plans for the new building; Ballots and its future; a joint meeting with the Academic Council Library Committee; some state or federal development, etc.

The orientation sessions would have three purposes, to lay out ...

... The anatomy of the category; what the issues are.
... What is happening in the field in respect to these issues, these problems.
... What the speculative terrain looks like.

As David stressed with me, none of us is interested in setting out on a dreary, redundant march over old ground to resurrect old ideas. Neither can we ignore that we've got in the libraries a going concern which can't put for a year in drydock to allow a general intellectual going over and, where indicated, overhaul. Thus, our problem: how best can we structure our inquiry to recognize the day by day operating demands on the libraries, take proper account of the professional expertise and experienced judgment of librarians here and elsewhere, challenge conventional wisdom with respectful skepticism, and, finally, cultivate and facilitate leaps of imagination, creative reformulations of the way the library's role is construed, and unorthodox ways of looking at problems as well as of crafting solutions.

Please think about the two models proposed and about any other models that appeal to you more. I shall canvass you individually and then work with Susan to get us started.

Sincerely yours,

Ray Bacchetti

RFB:nw

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THE FIVE-YEAR PLANNING AND BUDGET PROCESS IN 1978-79

The Five-Year Planning and Budget Process begun in 1977-78 was designed to be evolutionary in nature. The first year's experience suggested that perhaps too many data elements were being presented and that insufficient attention was being directed to longer term programmatic planning and priorities.

The Planning and Budget Process in 1978-79 will be designed to be more selective in the data presented. It also will place greater stress on programmatic planning within the context of budget targets.

This shift to place more emphasis on strategic planning will be accomplished by:

a. Development of a more useful data package for each administrative area, including the display of three to five year historical trends, as a substitute for, or supplement to, the full volume PBP document. These data would focus on programmatic indicators, e.g. teaching workloads, class size, research contracts. etc.

b. Simplifying the five-year planning and budget instructions and format, so as to:

   1. be more definitive about the desired contents of the narrative, placing more emphasis on program directions and plans;
   2. eliminate and/or redesign some of the planning and budget proposal forms;
   3. provide, where applicable, special guidelines from the Provost or other senior university

officer to a particular college or administrative unit, which would supplement the general guidelines.

c. A "pre-planning conference" with each dean, vice president and other administrative officers that will focus on key issues.

In consideration of the above, major changes to the program budget planning process for 1978-79 should be minimized to the extent possible, because:

a. In past years we have made major changes which led to some confusion about the process.

b. No radical changes should be made prior to the appointment of a new Director of Planning and Budget Officer, which would permit the new Director to become involved in reassessing the planning process.

Following is a proposal for a 19/8-79 Planning and Budget calendar. Last year, deans and other administrative officers did not have sufficient lead time to prepare proper planning and budget proposals. We are attempting to rectify this problem for 1978-79.

OBP
6/13/78

1978-79 CALENDAR FOR
THE FIVE-YEAR PLANNING AND BUDGET PROCESS

JUNE

Committee appointed to design proposed package of materials to be distributed to deans, vice presidents, and other administrative officers for the 1978-79 planning and budget process. This effort to be completed by mid-July.

JULY

Revised Five-Year Projection of Revenue and Expenses will be completed.

Late AUGUST

Pre-planning conferences will be held between senior officers and deans, vice presidents, and administrative officers.

AUGUST - SEPTEMBER

Develop revised five-year budget targets for the period 1979-80 through 1983-84 for each administrative area.

SEPTEMBER

Provide final instructions for 1978-79 planning and budget process, to include:

a. Revised five-year financial projections.
b. Revised five-year budget targets.
c. Other general information and guidelines as applicable.
d. Specific guidelines.

OCTOBER

Preparation and distribution of a historical analytical data package.

OCTOBER - NOVEMBER - DECEMBER

Planning proceeds at college-department level, and within each administrative area.

DECEMBER

Budget Hearings conducted by senior officers.

JANUARY - MARCH

Budget Task Force review and follow-up meetings with each academic and administrative officer.

5-Year Planning and Budgeting Questions for the University Libraries

In general we find it possible to follow the outline used for the Colleges and many of the specific questions are applicable. Others have required reconstitution: Our suggestions follow.

I An Overview

Describe the University Libraries as it will likely be in 1984 given the planning constraints and budgetary targets furnished to you.

Specifically, what will be the effects on the Libraries of changes in student enrollment and numbers of faculty compared with today; what change in the numbers and mix of faculty and support staff will have occurred; what changes are anticipated in demand for resources and service; what programs will have been eliminated or changed; what programs will have been expanded and strengthened; what organizational realignments are anticipated; and what will be the specific strengths and weaknesses of the Libraries by 1984?

II Instructional Programs

What specific actions has the University Libraries taken to strengthen instructional quality? What major changes in the instructional program have occurred in the past five years?

What actions do you plan to take in relation to the mix of formal and informal instruction? What actions have you taken or plan to take to ensure co-ordination and the reduction of overlapping activities? What use do you plan to make of alternative forms of instruction? What relationship will this have to established reference and bibliographical services?

What effects will changes in the mix of graduate and undergraduate students and shifts in program emphases have on related programs of library instruction? What effects will changes in staffing have on the libraries' ability to provide appropriate instructional assistance?

III Research and Public Service

A Research

What changes do you see in outside funding possibilities, federal, state, private, over the next five years?

What needs do you foresee for increased funding for resources in support of University research, for specific library-related research and for future computer-based developments?

What developments can be expected in the level of faculty activity in non-sponsored research?

(Note: Although libraries have not hitherto been deeply involved in seeking grants in the usual research project mode, we expect that it will become increasingly desirable to seek outside funding for resources and for specific investigative programs relating to library use).

B Public Service

What changes do you foresee in external relationships and services during the next five years? What effects will these changes have on the ability of the Libraries to achieve their goals? What changes are likely in faculty involvement?

(Note: The Libraries are involved in service to the whole of Pennsylvania as mandated by the Pa. Library Code (PL 324) and by participation in Interlibrary Loan, various consortia and computerized systems with libraries throughout the U.S.).

IV Faculty and Staff Resources

Describe significant changes in faculty and staff characteristics over the last three years. What changes are anticipated in the next five years in: number of positions; qualifications and areas of specialization; tenure ratios; faculty/staff/clerk mix; use of fixed-term appointments and plan variations? By position title or job description, list retirements or resignations anticipated in the next five years and describe the opportunities which these resignations or terminations will provide for changing, as appropriate and/or necessary, the mission and directions of the libraries or the mix of services offered.

As programmatic needs change (e.g. shift from resource-oriented to information-retrieval oriented services) what plans are being made in the libraries to provide appropriate opportunities for staff re-training, including faculty development and reassignment?

V Linkage of Program and Budget - Matrix

As is.

VI Request for Alternative Target

As is.

VII Final Comment

What are the plans of the library for the development of its collections? What problems are foreseen, e.g. inflation, location, physical space? What changes do you foresee in the mix of resources?

Five Year Planning and Budgeting Questions

A budget is a program plan that should reflect goals and priorities. It is important, both as a process and as a product. As a process, the maximum feasible involvement of faculty at the programmatic level is critical. As a product, it is vital that succinctness and realism be the guide words.

The narrative portion of the budget plan is aimed at producing a concise description of what the college is likely to be in the final year of the 5-year plan. It should describe in the necessary detail the steps, year-by-year, which would move the college from the present to the final year of the projection.

The narrative should be presented according to the following organization:

I. An Overview (no more than three pages):

Describe the college as it will likely be in 1984 given the planning constraints and budgetary targets furnished to you. Specifically, how will the size of the college, in enrollment and faculty, compare with today; what academic programs will have been eliminated (if any) and what academic programs will have been expanded and strengthened; what organizational realignments are anticipated; and what will be the specific strengths and weaknesses of the college by 1984?

II. Resident Instruction Program and Curricular Direction (no more than two pages):

What specific actions has the college taken to strengthen instructional quality? What major changes in the instructional program have occurred in the past five years? What changes do

you plan or anticipate in curricular directions over the next five years in such items as enrollment and additions, combinations, or elimination of courses and programs? What action is the college taking or planning to achieve an appropriate mix of section sizes? What actions have been taken to reduce course proliferation?

If changes in the mix of graduate and undergraduate students, or changes in emphases among levels of instruction are anticipated, what other adjustments (e.g., faculty mix) will be necessary? What shifts are anticipated in the ratio of faculty appointments and graduate assistant appointments?

III. Research and Public Service (no more than two pages):

A. Research

What plans are in process to eliminate, initiate or expand research programs? Is the dollar amount of contracts and grants likely to increase or decrease in the college during the next five years? Why? What changes can be expected in the level of faculty commitment to nonsponsored research in the college?

B. Public Service

What changes in continuing education programs are planned during the next five years? Is the levelof involvement of faculty members in the college likely to increase or decrease during the next five years?

IV. Faculty and Staff Resources (no more than two pages):

Describe significant changes in faculty and staff characteristics over the last three years. What changes are anticipated

in the next five years in number of positions; qualifications and areas of specialization; tenure ratios; and use of fixed-term appointments? By position title, (e.g., professor of chemistry) list retirements or resignations anticipated in the next five years and describe the opportunities which these resignations or retirements will provide for changing, as appropriate and/or necessary, the mission and direction of the college.

As programmatic needs change (e.g., lessening of demand for literature courses and increasing demand for writing), what plans are being made in the college to provide faculty development opportunities and reassignment?

V. Linkage of Program and Budget

Using the matrix provided below, describe concisely the proposed actions to be taken in each budget year to meet the budget target established for that year. The actions cited should reflect programmatic and staffing directions outlined in the previous sections.

Matrix of Actions to Meet Budget Targets

	Budget Response				
	79-80	80-81	81-82	82-83	83-84
1.					
2.					
3.					
4.					
5.					
Total (aggregated targets)	Target (79-80)	Target (80-81)	Target (81-82)	Target (82-83)	Target (83-84)

VI. Request for Alternative Target (no more than three pages):

If a major revision of the target for the college is the only possible way to avoid immediate and irretrievable deterioration of the quality of the programs of the college, explain the proposed alternative target, why it is necessary, and the implications that would follow if it were adopted.

VII. Final Comment (no more than one page):

If there are other specific items regarding the plans or the problems of the college not readily incorporated into the previous sections, please provide that information. For example, what additional steps do you recommend to enable Penn State to operate more effectively and efficiently?

BUDGETING SYSTEMS

UNIVERSITY OF TORONTO LIBRARY

ZERO BASE BUDGET

PROJECT

1 - INTRODUCTION

In the past, within the University, the only aspect of the budget that was specifically reviewed was any proposed increase or new spending above the previously established base budget. The normal assumption was that the existing level of spending by the Library or any other division would be accepted without examination and that justification was required only for any proposed increase.

However, this assumption is no longer valid. Instead of being increased, budgets are now being kept at their current level or being cut and it is clear that the University will be facing financial austerity for several years.

The Planning and Budgeting Committee (PBC) now needs to use new techniques to rationalize and control the growth of the Library's budget. Increased competition for limited resources required that the Library examine all of its existing activities in terms of funding to ensure that it can continue to support those functions that are of the highest priority in terms of the library's and university's goals and objectives. The Library must begin to justify its functions and not only examine cost effective alternatives but also determine the minimal level of support necessary before a function is made inoperable. Moreover, if choices must be made due to budgetary cons-

traints, then functions must be ranked to facilitate the decision making process.

Zero base budgeting involves techniques which will allow for the thorough assessment and evaluation of all library activities by providing the PBC with the following kinds of information:

a. the real cost of the various activities the library performs;

b. the minimal cost levels necessary to provide each library service;

c. a ranking of library functions to facilitate support and defence;

d. if there is unnecessary duplication of effort both within and without the library system;

e. criteria for continuous evaluation of perfcrmance.

2 - ZERO BASE BUDGETING METHODOLOGY

Normally, zero base budgeting involves two basic steps:

a. developing "decision component";

b. ranking of these components.

To facilitate the exercise we have adopted a process for grouping decision components into decision packages.

A decision package is defined as a package of decision components which grouped together identifies and describes library activities in such a manner that management can

a. evaluate and rank them against other activities competing for limited resources.

b. decide the level of support that should be assigned to them.

A decision component is a discrete activity, function or operation

that when isolated has a minimum impact on other components within a department. The discrete pieces of the activity should have a meaningful identification and evaluation.

3 - IDENTIFICATION OF DECISION PACKAGES AND COMPONENTS

The first two letters denote the Library Area.
Thus RS = READER SERVICES

The first two numbers following the Library area code designate a decision package which will contain a broad description of the objective of the activities associated with the package, an analysis of all the component parts, together with a financial summary.

Thus RS.01 = CIRCULATION IN ROBARTS LIBRARY

The next two digits represent the decision component which are considered the principal discrete activities, functions or operation in the package.

Thus RS.01.01 = LENDING, CIRCULATION DEPARTMENT, ROBARTS LIBRARY

As supporting documentation to help supervisors and managers present a clearer picture of their requirements for discussion and defence, further subdivisions of a decision component have been listed, where such subdivision can be isolated for cost and function.

Thus RS.01.01.7 = BOOK DELIVERY OPERATION IN THE CIRCULATION DEPARTMENT, ROBARTS LIBRARY

4 - DESCRIPTION OF DECISION COMPONENT (FORM 2A)

The information required to describe a decision component may be summarized as follows:

4.1 Objectives and description of decision component

Each decision component should be described in general terms including supporting arguments, relevant objectives, and the unit, library

and campus needs (if any) that the component fulfills. Explain how this component achieves the objectives and fulfills the needs; outline any short and long-range goals.

4.2 Operational and/or Legal Consideration

Explain operational and legal consideration that require implementation of the decision component. e.g.

- support for other units and departments
- importance to library or other campus operations and functional continuity
- Federal, provincial and local statutes and regulations that require component activities
- University, or library policies, directives and procedures

(Attach or refer to pertinent documents where applicable)

4.3 Current Methods of Operation

Describe the functions, programs and activities performed.

4.4 Volumes and Workloads (where applicable)

Show quantitative workload measures that support the level of decision component activities, staffing and funding. It is important to highlight the ratios of staffing to the volumes. (For example eight cataloguers catalogue 240 titles per week hence a ratio of 1 cataloguer to 6 books per day). Changes in volume should be predictive of changes in staff and resources need. It will be important to establish the minimal level of expenditure.

4.5 Sources of Input and Direction of Output of Documents/Data

It is possible that some duplication of functions may occur between areas and departments. For example, the receipt of serials are checked at Robarts and again at Science and Medicine. In order to determine whether there are any functions which could be eliminated safely, the sources of input and the direction of the output must be indicated.

4.6 Benefits of Operation

Describe the benefits to the units, other departments, the University, the Faculty, the students and staff. Evaluate the importance of these benefits and, where possible, show quantitative measures of direct benefits.

4.7 Evaluation

Evaluate the unit's effectiveness in achieving its objectives and describe the criteria used in this evaluation. If current achievements do not adequately fulfill the objectives, state what further is needed. The result of systematic evaluation of clients of the quality of the operations would be extremely useful. When this has been done please indicate the relevant documentation.

4.8 Consequences of reduction or denial of funds

Describe the potential financial, legal (if any) and operational impact. Evaluate the impact on the ability of departments, the library and the university to carry out assigned responsibilities and authorized programs. State what departments, organizations and individuals would be affected, how, and how seriously.

4.9 Form 2A - Decision Component Description

This form should be used to describe each of the principal decision components. Information on any sub component should be completed on Form 2AS and collated with the relevant Form 2A. In general, the information should be prepared by the responsible supervisor and approved by the department head.

5 - ALTERNATIVES

One of the most important aspects of Zero Base Budgeting centres around the identification of alternatives to present practices. These alternatives may be of three kinds.

A. Alternative Policies

In certain circumstances, the Library or the University may have enunciated policy statements that are now too costly to administer or that, if modified slightly, might achieve the essential objective of the policy while greatly reducing the resources required to administer the policy. For example, until the installation of the Tattle Tape, it was library policy not to allow overcoats to be taken beyond the second floor of Robarts. By rescinding this policy, the library costs for maintaining the cloakroom were lowered appreciably.

B. Alternative Systems: Methods of Operation

A more normal alternative may be to indicate another method of performing the same function. Thus, for example, it may be worth considering contracting services outside the library; making more efficient use of automation; or sharing the function to be performed with another area.

C. Alternative Systems: Levels of Performance

In some instances a change in the level of performance may be a useful alternative to consider. Thus, the level of full bibliographic recording for all monographs could be simplified to either speed the flow of monographs through processing or to increase the number of items catalogued by the area.

5.1 Form 2B - Decision Component Alternative

A separate form should be used to identify each alternative considered. Show the type of alternative (A, B or C listed above) and describe the alternative. The resource savings and impact of the alternative must be identified. It is also necessary to identify an expected timing for the implementation of the alternative. The alternative to be recommended by the manager must be indicated. It is essential that the unit managers (person responsible for component or sub component) avail themselves of the opportunity to discuss their alternatives with their immediate senior manager.

6 - FINANCIAL DETAIL

6.1 Form 2C and 2D

For each decision component the resources relating to that component must be identified. Form 2D should be completed by the Unit Manager to provide the names of the staff, their full time status or equivalent - judgement must be used to equate the number of hours a full time staff member may denote to a particular decision component. The details of individual salaries will completed in the Area Office and only summaries of total salaries will be recorded on Form 2C to remain with the Decision Package. Form 2D will be held by the Area Office and sent separately to the Director of Planning, Budgeting and Administrative Services for

future analysis.

In the completion of Form 2C the details of the costs involved in supplies and equipment should be obtained from the Business Office. Cost of telephones and postage may be less easy to compile but nevertheless the best judgement of those involved should be used to indicate an appropriate figure. The cost of individual telephones can be provided by the Business Office. The column for changes, increases (or decreases) - should be completed to indicate what costs may be involved to maintain the present level of operation for in each decision component over which the department has full control and authority. For example, if additional or replacement equipment must be purchased in the 1978-79 financial year this may be an increase, whereas if equipment had been purchased in 1977-78 but was not required in 1978-9, this would be shown as a decrease. Similarly, increase or decrease in workload may be reflected in more, or less, supplies.

6.2 Form 1 - Decision Package Summary

In as much as one set of forms 2A-2D will be completed for each Decision Component, Form 1 represents the summary of all the Decision Components in the Decision Package. This would be completed by the Area Office. Columns C & D will be completed after the PBC deliberations and when the final budget recommendations have been confirmed.

7 - RANKING

The ranking and review process will be a threefold process - unit management review, senior management, and review by the Planning and Budgeting Committee.

Ranking required the individual manager to allocate a number from 1 to 6 to identify the significance of the decision component to the library. Thus:

1 = Any component which in the opinion of the manager is essential. The ranking is to be used for only those functions which are so vital that the operation of the library could not continue without them.

2 = If the lack of decision component would seriously impair the operation of the library assign this rank.

3 = If funds were not provided for this activity, some harmful consequences could be expected with regard to the efficient function of the library.

4 = These functions could be given up reluctantly.

5 = Marginal components of which the benefits to the library are questionable.

6 = Activities no longer necessary to operations in the library.

7a. Unit Management Review

As the basic documents are assembled, a ranking priority should be indicated for all the sub unit components and decision components under the preview of the supervisor. This would then be reviewed by the appropriate Department Head who will finalize the ranking for all components. In each case, it is the perception of the appropriate manager that is important in recording the ranking procedure.

7b. Senior Management Review

The ranking of the Decision Packages is to be completed by the Area Head prior to sending them to the Executive Secretary of the PBC for review by the PBC.

7c. Planning and Budgeting Committee Review

The PBC will consolidate the priority rankings for all decision packages then a financial "fit" will be determined for budget allocation.

8 - IMPLEMENTATION

The Planning and Budgeting Committee established a procedural and monitor-

ing committee for the zero base budget project under the chairmanship of G.H. Wright, Director of Planning, Budgeting and Administrative Services. The members are:

G. Wright	- (Chairman)
J. Sheppard	- LAC Chairperson
E. Fillion	- BS Area Council Chairperson
A. Amoroso	- BS & TS Area Council Chairperson
S. Laidlaw	- RS Area Council Chairperson

The Committee is responsible for:

a. developing procedures to obtain submissions from all areas;

b. informing library staff of the program and its objectives;

c. advising and monitoring area submissions.

The responsibilities of members for attending meetings in the various areas to advise and monitor submissions will be:

Library Administration	- Judy Sheppard
Book Selection	- S. Laidlaw
BS & TS	- E. Fillion
Reader Services	- A. Amoroso

Meetings will be arranged with all Department Heads, Supervisors, and Area Councils to outline the objectives of the zero base project. G. Wright and the Chairperson responsible for the Area will lead the discussion. The following meetings have been arranged.

Library Administration	18 April	2:30 p.m.
LAC	25 April	
Reader Services	1st May	10:00 a.m.) 2:30 p.m.)
	2nd May	2:30 p.m.
Book Selection	16 May	2:30 p.m.
B.S & T.S.	17 May	10:00 a.m.) 2:30 p.m.)

The procedural steps for implementation will be:

1. Supervisors and Departmental Heads will prepare and rank decision components and provide alternatives.

2. Supervisors and the Department Head associated with each decision package will attend a meeting with Area Head and Area Chairperson. The Department Head will rank the decision components and the package/or packages and submit them to the Area Head. If there is a difference in ranking between Department Head and Area Head for the decision components both rankings will be submitted.

3. Department Heads and Area Head together with Area Chairperson and Area Advisor will attend a meeting at which the Area Head will rank and submit the decision packages to the Area Advisor.

4. The Procedural and Monitoring Committee will collate and submit all Area Packages to the PBC.

5. Time Scale to Final Presentations:

   The preparation of the documentation will be according to the following time scale:

Library Administration:	April 24th	- May 19th
Book Selection:	May 20th	- June 9th
Reader Services	May 3rd	- June 8th
BS & TS	June 10th	- July 14th

   Final presentation for each area will be on the last named date. The full documentation will be presented to the PBC on either the 31st August or 28th September, 1978.

U T L ZERO BASE BUDGET PROJECT

FORM 2CS DECISION COMPONENT SUB-UNIT FINANCIAL SUMMARY

DECISION COMPONENT TITLE	DECISION COMPONENT NO.	RANK
PREPARED BY:	APPROVED BY:	DATE PREPARED:

NOTES: 10. Travel excludes staff development conferences.
11. Staff development including attendance, cost at Personnel Training Sessions.
16. Give details in REMARKS column.

CHANGES: to reflect cost alternatives to meet objectives as approved by Area Head.

T I T L E	1977-78		Change Increase (Decrease)		REMARKS
	FTE	DOLLARS	FTE	DOLLARS	
1. LIBRARIANS					
2. UNION SALARY					
3. NON-UNION					
4. ADDIT. ASST.					
5. OTHER					
6. Sub Total line 1 to 5					
7. BENEFITS					
8. STAFF COST line 6+7					
9. EQUIPMENT					
10. TRAVEL					
11. STAFF DEV.					
12. SUPPLIES					
13. TELEPHONE					
14. POSTAGE					
15. AUTOMATION					
16. OTHER					
17. Sub Total line 9 to 16					
18. TOTAL line 8+17					
19. COST RECOVERY					
20. NET COST line 18-19					

DECISION COMPONENT NO.

U T L ZERO BASE BUDGET PROJECT

FORM 2AS DECISION COMPONENT SUB-UNIT DESCRIPTION

DECISION PACKAGE TITLE			
DECISION COMPONENT TITLE	DECISION COMPONENT No.	RANK DEPT	RANK AREA
PREPARED BY:	DATE PREPARED:		RANK PROPOSAL
APPROVED BY:			

INFORMATION REQUIRED (Use additional pages if needed)

1. Objectives and description of decision component.
2. Operational and/or legal purpose for component.
3. Current method of operation.
4. Volumes and workload (where applicable).
5. Sources of input, directions of output.
6. Benefits of operation.
7. Evaluation.
8. Consequences of reduction or denial of funds.

DECISION COMPONENT NO.

U T L ZERO BASE BUDGET PROJECT

FORM 2BS DECISION COMPONENT SUB-UNIT ALTERNATIVE

DECISION PACKAGE TITLE		
DECISION COMPONENT TITLE	DECISION COMPONENT NO.	ALTERNATIVE NO.
PREPARED BY:	DATE PREPARED	
APPROVED BY:		LIBRARY AREA/DEPT.
TOTAL COST INCREASE	TOTAL COST DECREASE	
INFORMATION REQUIRED USE SEPARATE FORMS FOR EACH ALTERNATIVE	a. describe alternative b. quantify impact of this alternative. c. indicate the implementation date.	

DECISION COMPONENT NO.

ALTERNATIVE NO.

U T L ZERO BASE BUDGET PROJECT

FORM 2DS DECISION COMPONENT SUB-UNIT PERSONNEL FINANCIAL SUMMARY

DECISION COMPONENT TITLE	DECISION COMPONENT NO.	RANK
PREPARED BY:	DATE PREPARED	
APPROVED BY:		
NOTES: FTE: state either FT or number of hours spent by staff member relating to the decision component.		

POSITION	Position No.	NAME, (or TBA)	A 1977-78		B 1977-79 CHANGE Increase (Decrease)		C 1978-79 Proposed level	
			FTE	DOLLARS	FTE	DOLLARS	FTE	DOLLARS
SUB-TOTAL								
ADDIT. ASSTS.								
TOTAL								

U T L ZERO BASE BUDGET PROJECT

FORM 2B - DECISION COMPONENT ALTERNATIVE

DECISION PACKAGE TITLE		
DECISION COMPONENT TITLE	DECISION COMPONENT NO.	ALTERNATIVE NO.
PREPARED BY:	DATE PREPARED:	
APPROVED BY:		LIBRARY AREA/DEPT.
TOTAL COST INCREASE	TOTAL COST DECREASE	
INFORMATION REQUIRED USE SEPARATE FORMS FOR EACH ALTERNATIVE	a. describe alternative. b. quantify impact of this alternative. c. indicate implementation date.	

DECISION COMPONENT NO.

ALTERNATIVE NO.

U T L ZERO BASE BUDGET PROJECT

FORM 2A - DECISION COMPONENT DESCRIPTION

Decision Package Title			
Decision Component Title	Decision Component No.	Rank Dept.	Rank Area
Prepared by:	Date Prepared:	Rank Proposal	
Approved by:		Library Area/Dept.	

INFORMATION REQUIRED (Use additional pages if needed)

1. Objectives and description of decision component.
2. Operational and/or legal purpose for component.
3. Current method of operation.
4. Volumes and workload (where applicable).
5. Sources of input, direction of output.
6. Benefits of operation.
7. Evaluation.
8. Consequences of reduction or denial of funds.

Decision Component No.

U T L ZERO BASE BUDGET PROJECT

FORM 2D DECISION COMPONENT PERSONNEL FINANCIAL SUMMARY

DECISION COMPONENT TITLE	DECISION COMPONENT NO.	RANK
PREPARED BY:	DATE PREPARED	
APPROVED BY:		

NOTES: FTE: state either FT or number of hours spent by staff member relating to the decision component.

POSITION	Position No.	NAME, (or TBA)	A 1977-78		1977-79 CHANGE B Increase (Decrease)		1978-79 C Proposed level	
			FTE	DOLLARS	FTE	DOLLARS	FTE	DOLLARS
SUB-TOTAL								
ADDIT. ASSTS.								
TOTAL								